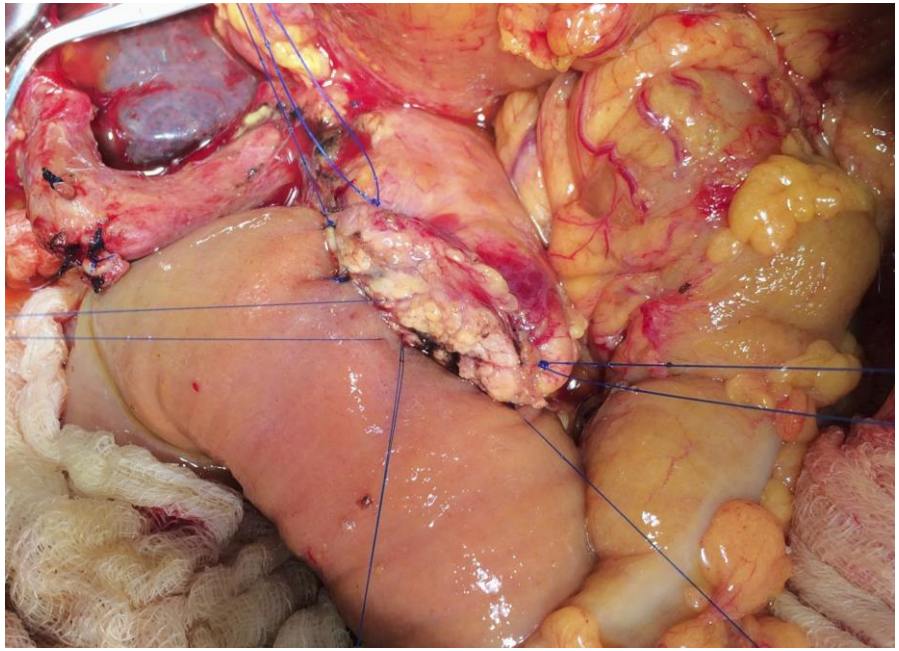

PANCREATODUODENECTOMY: BRAZILIAN PRACTICE PATTERNS

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Original Article

PANCREATODUODENECTOMY: BRAZILIAN PRACTICE PATTERNS*

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*Supported by the Brazilian Chapter of the International Hepato-Pancreato Biliary Association (CB-IHPBA).

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CANCER OF THE PANCREATIC HEAD

- Fourth leading cause of death
- Surgical resection: potential of cure
- PD: Technically challenging procedure
- Mortality: 3-5%
- Morbidity: 30-61%

Table 4. Morbidity

Complication	n	%
Delayed gastric emptying	410	21
Postoperative pancreatic fistula	295	15
Wound infection	222	11
Cardiac event	69	3
Pneumonia	38	2
Delayed bleeding	32	2
Chyle leak	28	1
Any complication	894	45

Cameron JL, He J. J Am Coll Surg 2015;220:530-6

TECHNICAL FACTORS

- Complications
- High level of experience
- Centralization
- Practice patterns
  - Resection
  - Reconstruction
- Heterogeneity (Brazil)

OBJECTIVE

The aim of this study was to analyze the Brazilian practice patterns for PD.

METHOD

- Brazilian Chapter - IHPBA
- Questionnaire – 60 institutions
  - Specific training
  - Experience
  - Technical aspects
  - Clinical aspects
- Returned – 52 (86.7%)

RESULTS

NORTH	3.9 %
NORTHEAST	19.2 %
CENTER-WEST	7.7%
SOUTHEAST	48.0 %
SOUTH	21.2 %

Torres et al. Arq Bras Cir Dig 2017; In press.

RESULTS

TABLE 1 - Characteristics of study population (n and %)

Specialty/Training			Experience			Number of PDs			PDs in 2015		
General Surgery	4	(7.7)	Practice (PD) in years			1–20	2	(3.9)	1-5	6	(11.5)
GI Surgery	8	(15.4)	0–5	0	(0)	21–50	12	(23.1)	6-10	14	(27.0)
Surgical Oncology	9	(17.3)	6–10	9	(17.3)	51–100	16	(30.8)	11-15	9	(17.3)
Hepato-pancreatobiliary	30	(57.7)	11–15	13	(25.0)	101-150	6	(11.5)	16-20	8	(15.4)
Pancreatic Surgery	1	(1.9)	16–20	12	(23.1)	151-200	2	(3.9)	21-25	6	(11.5)
Practice setting			>20	18	(34.6)	201-300	7	(13.4)	26-30	3	(5.8)
Public (academic/university)	3	(5.8)				> 300	7	(13.4)	> 30	6	(11.5)
Public(non-academic/non-university)	3	(5.8)									
Public and private	36	(69.2)									
Private only	10	(19.2)									

Torres et al. Arq Bras Cir Dig 2017; In press.

LAPAROSCOPIC PANCREATODUODENECTOMY

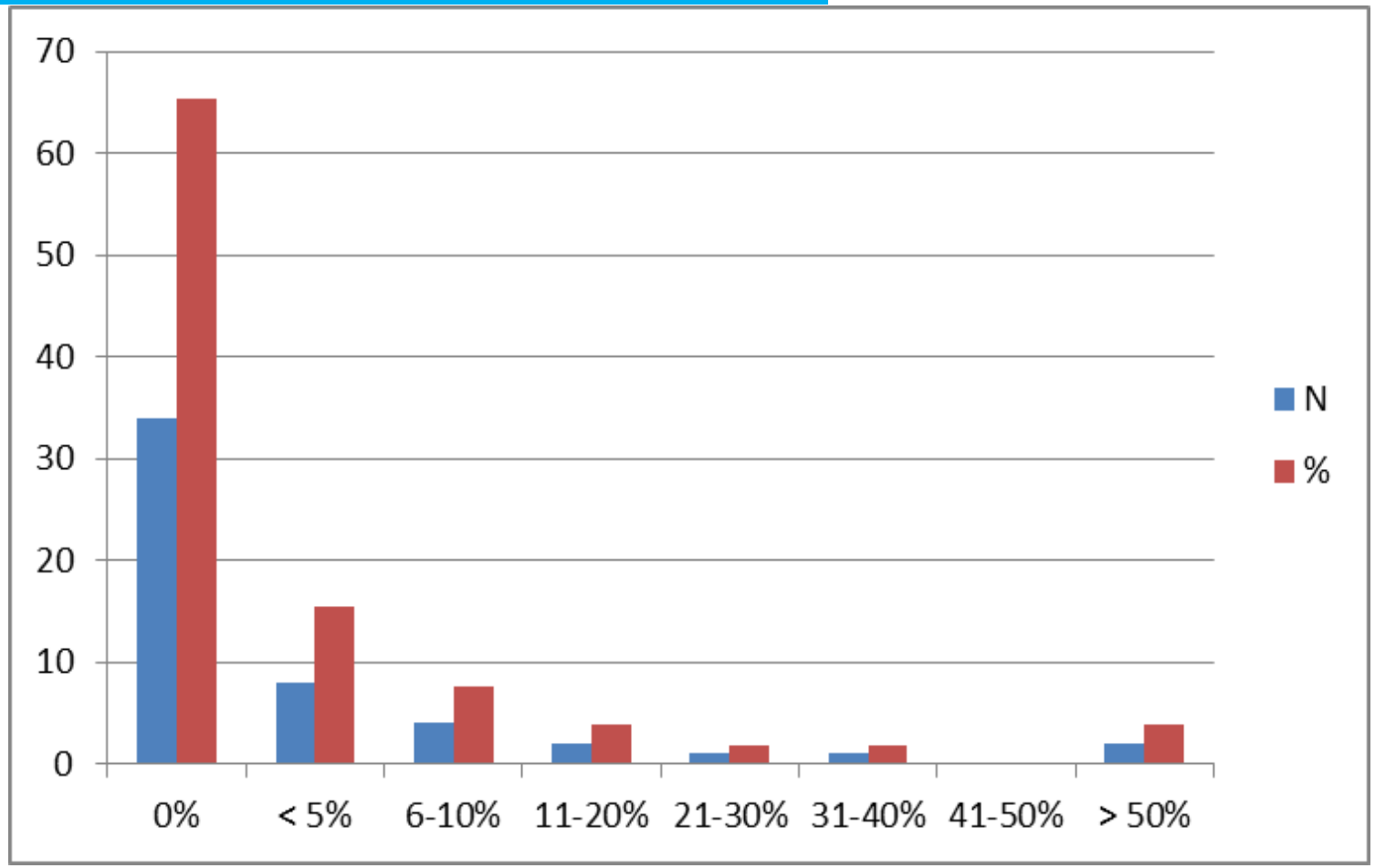
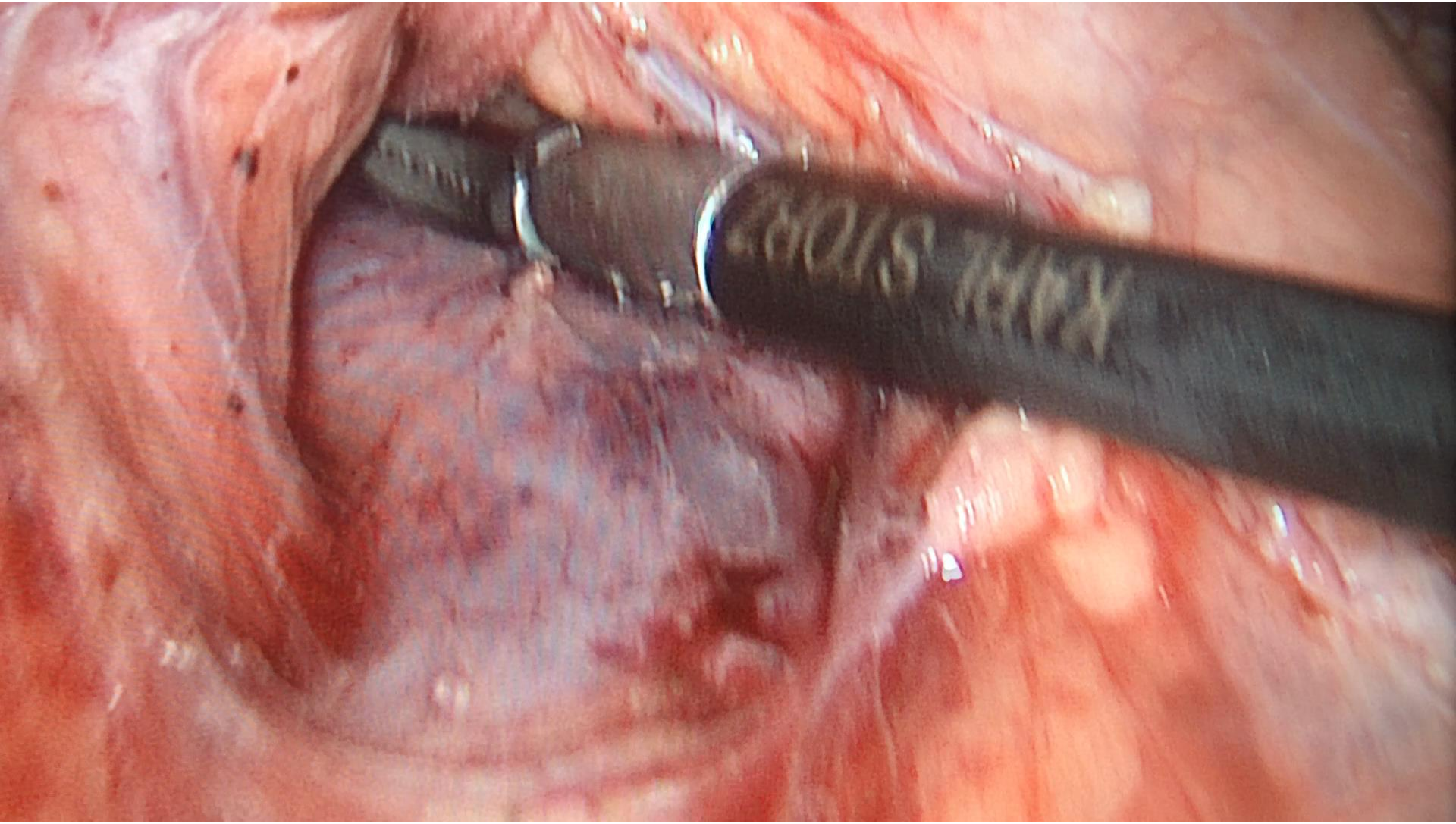
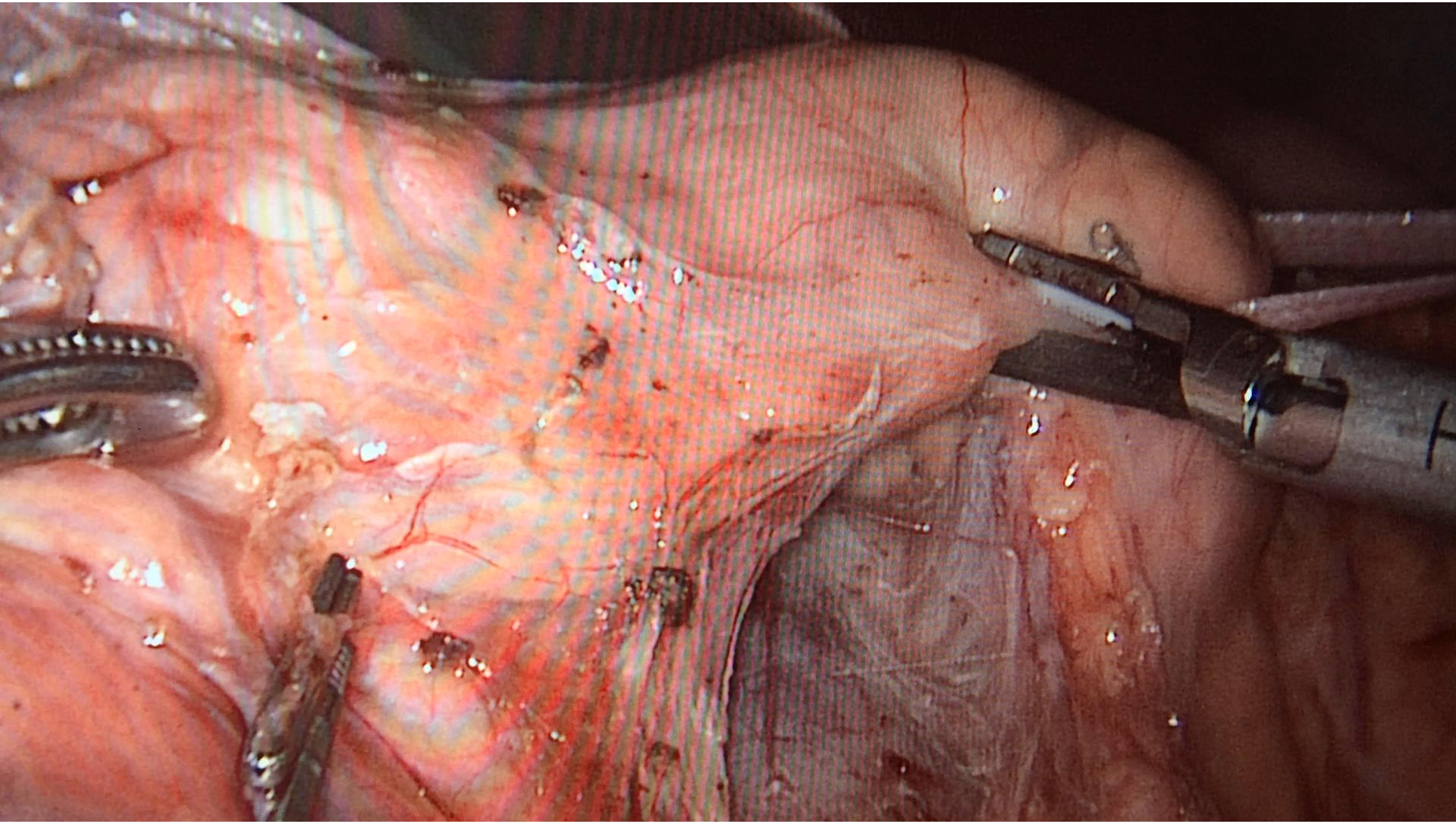


FIGURE 1 – Laparoscopic pancreatoduodenectomy (%) of their cases

Torres et al. Arq Bras Cir Dig 2017; In press.





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Performance of Laparoscopic Pancreatoduodenectomy For Solid Pseudopapillary Tumor of Pancreas

Authors' Contribution:
Study Design A
Data Collection B
Statistical Analysis C
Data Interpretation D
Manuscript Preparation E
Literature Search F

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YOUNG
LADY
NO VASCULAR INVASION

Torres OJM,et al. Am J Case Rep 2016;17:16-21

RESECTION

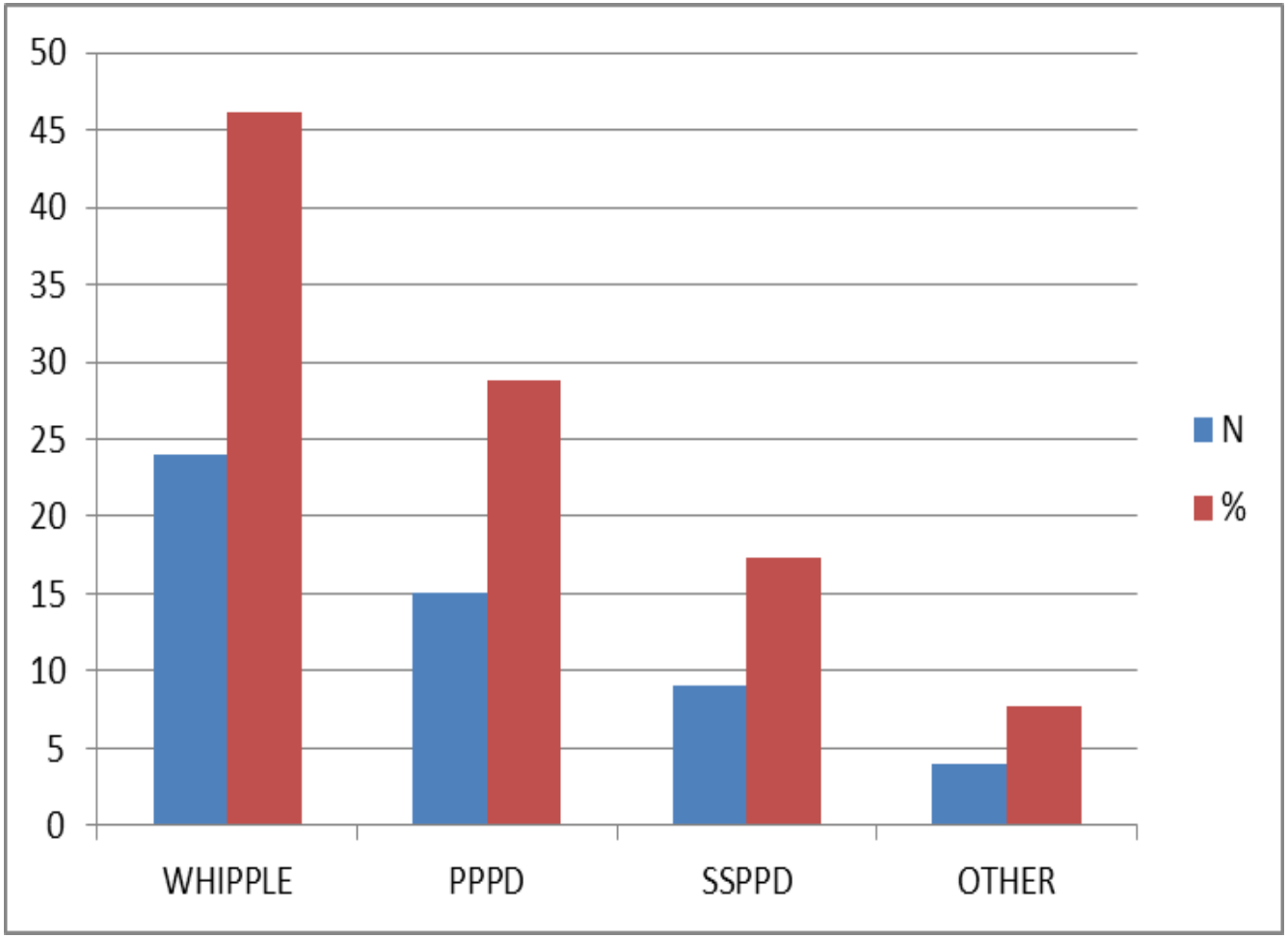
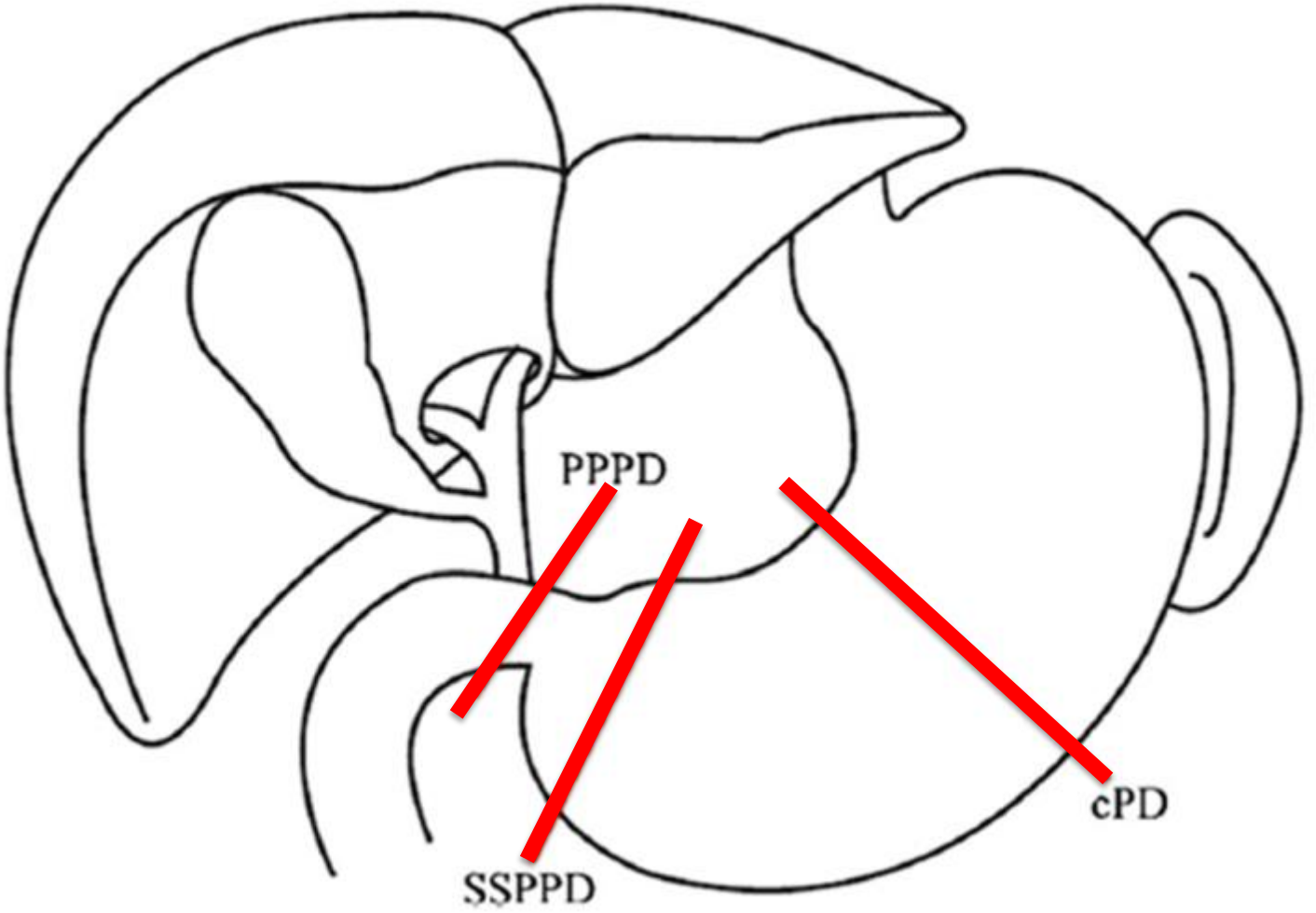
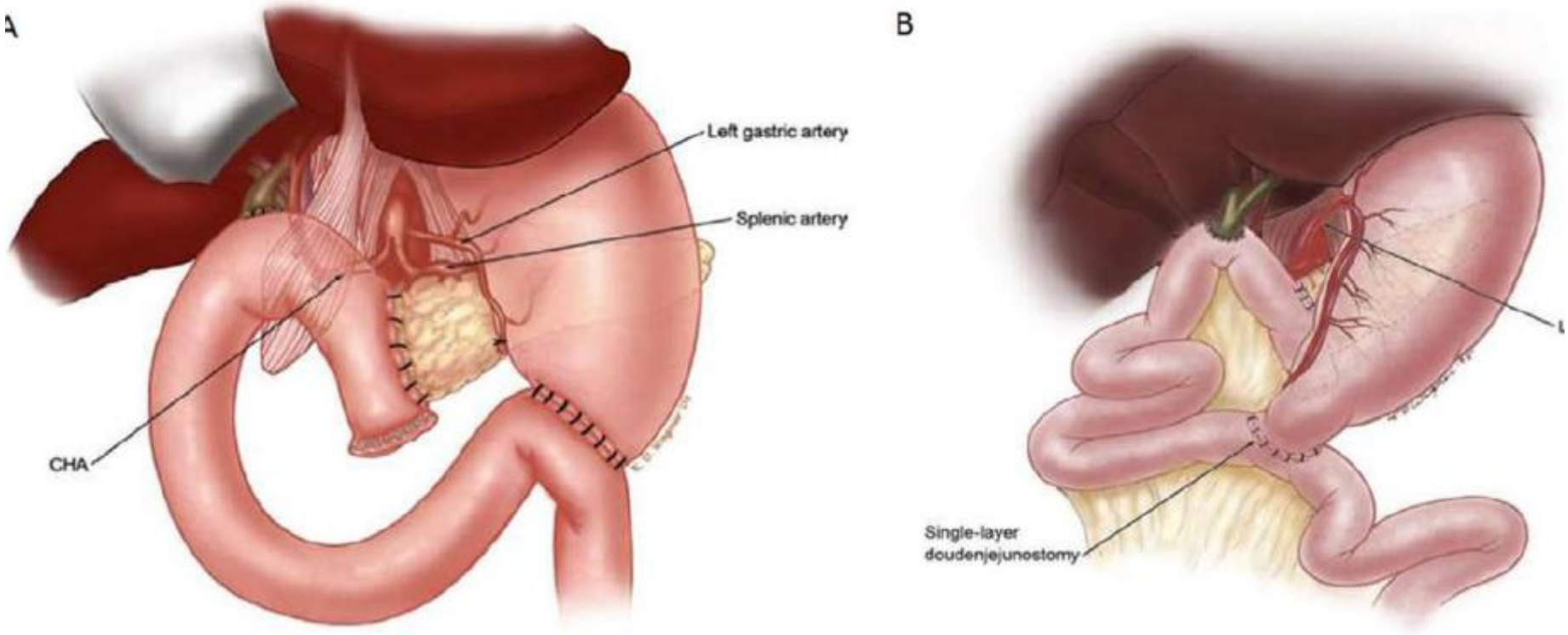


FIGURE 2 – Type of resection (%)

Torres et al. Arq Bras Cir Dig 2017; In press.

RESECTION

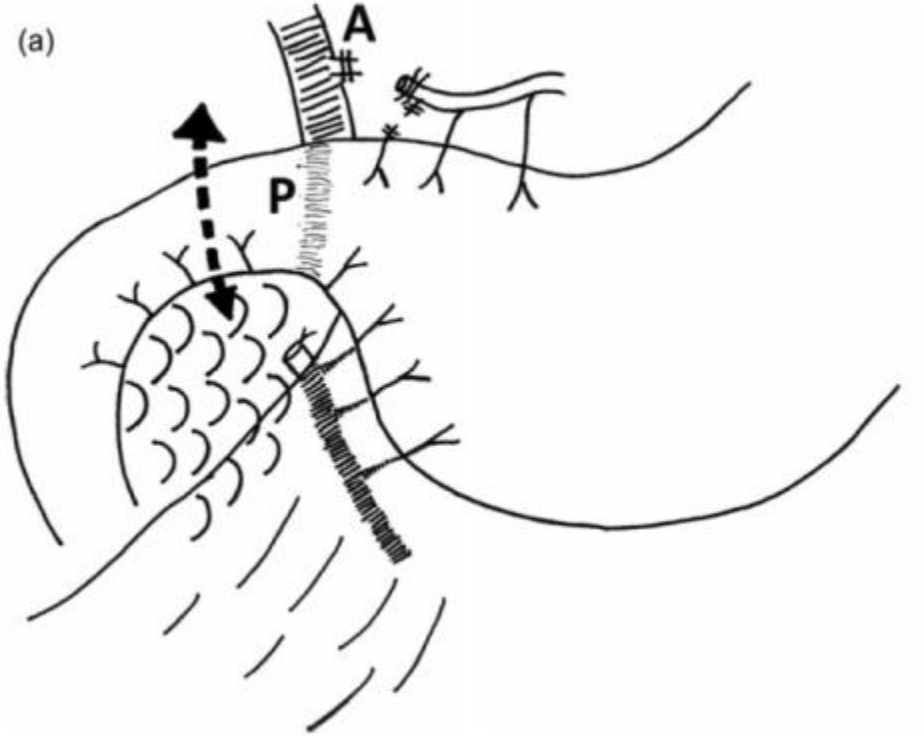


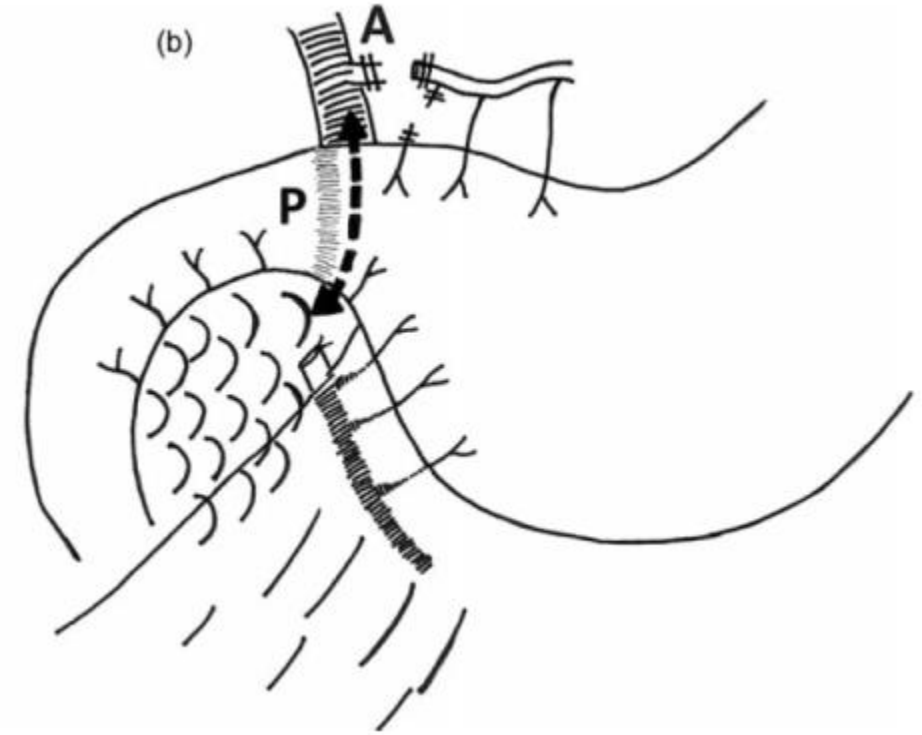


Beger HG, Matsuno S, Cameron JL, 2010

PPPD

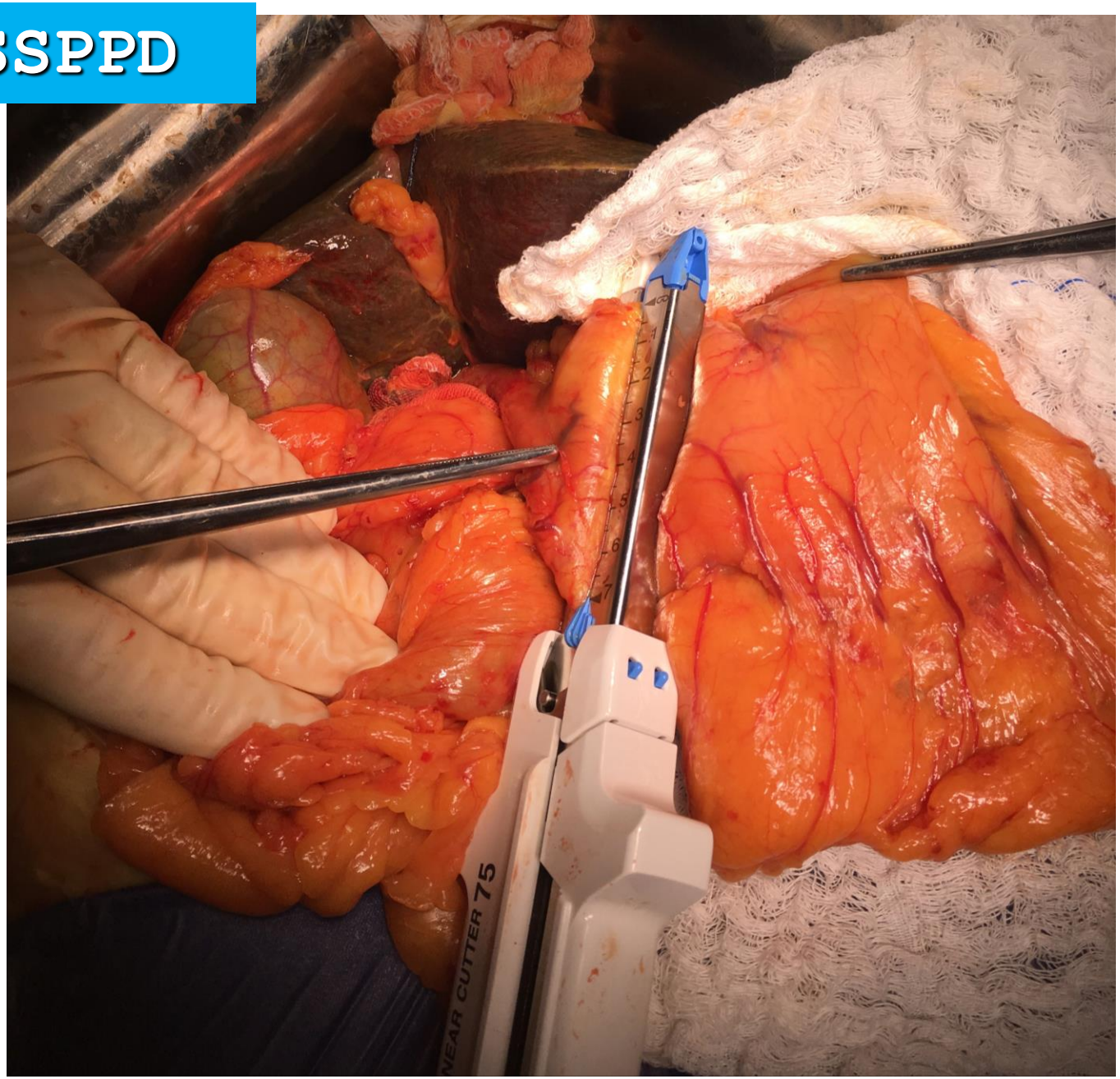
SSPPD



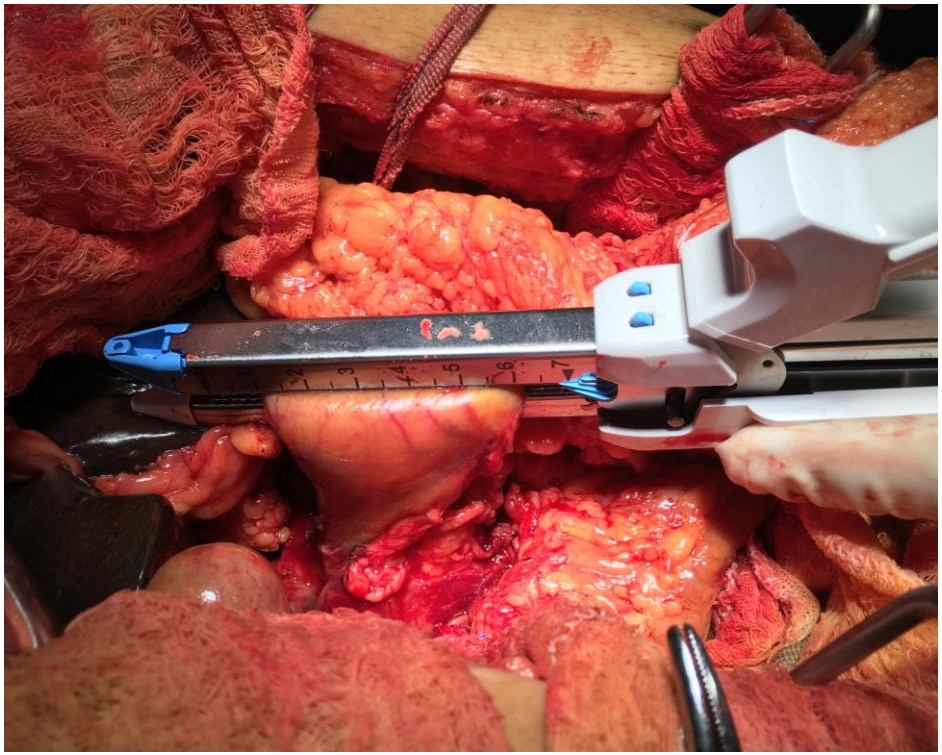


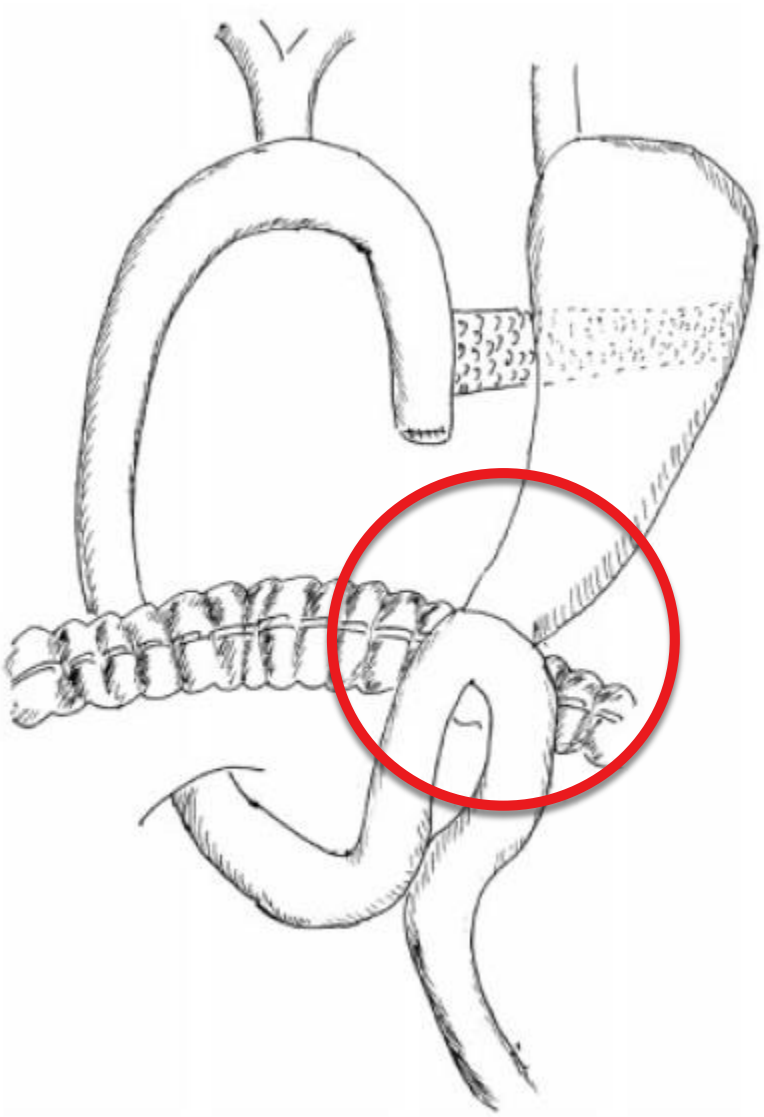
Kawai M, et al. Ann Surg 2011;253:495-501

SSPPD



Torres et al. Arq Bras Cir Dig 2017; In press.





Torres et al. Arq Bras Cir Dig 2017; In press.

ABCDDV/1175

ABCD Arq Bras Cir Dig
2016;29(2):71-72
DOI: /10.1590/0102-6720201600020001

Editorial

THE OBITUARY OF THE PYLORUS-PRESERVING PANCREATODUODENECTOMY

O obituário da duodenopancreatectomia com preservação pilórica

Orlando Jorge Martins **TORRES**, Rodrigo Rodrigues **VASQUES**, Camila Cristina S. **TORRES**
From the Department of Surgery, Federal University of Maranhão, São Luiz, MA, Brazil

Pancreatoduodenectomy is the treatment of choice for patients with benign and malignant disease of pancreatic head. Classic pancreatoduodenectomy was described by Whipple originally and included distal hemigastrectomy. Pylorus-preserving pancreatoduodenectomy (pylorus-preserving) was popularized in the late 1970s for benign disease and it included full preservation of the pylorus. However, delayed gastric emptying after pylorus-preserving is a frustrating complication. Its incidence varying from 19% to 61% in previous series and it results in discomfort, prolonged length of stay and increases the risk of respiratory complications. Delayed gastric emptying contributes to increased hospital costs and decreased quality of life. There has been no evidence from prospective studies and meta-analyses to indicate the superiority of pylorus preserving in terms of quality of life or delayed gastric emptying[2,4,5,7].

More recently, and mostly in Japan since the late 1990s, subtotal stomach-preserving pancreatoduodenectomy (stomach-preserving) in which the pyloric ring and 2 cm of the distal stomach only is removed with preservation of about 90% of the

LYMPHADENECTOMY

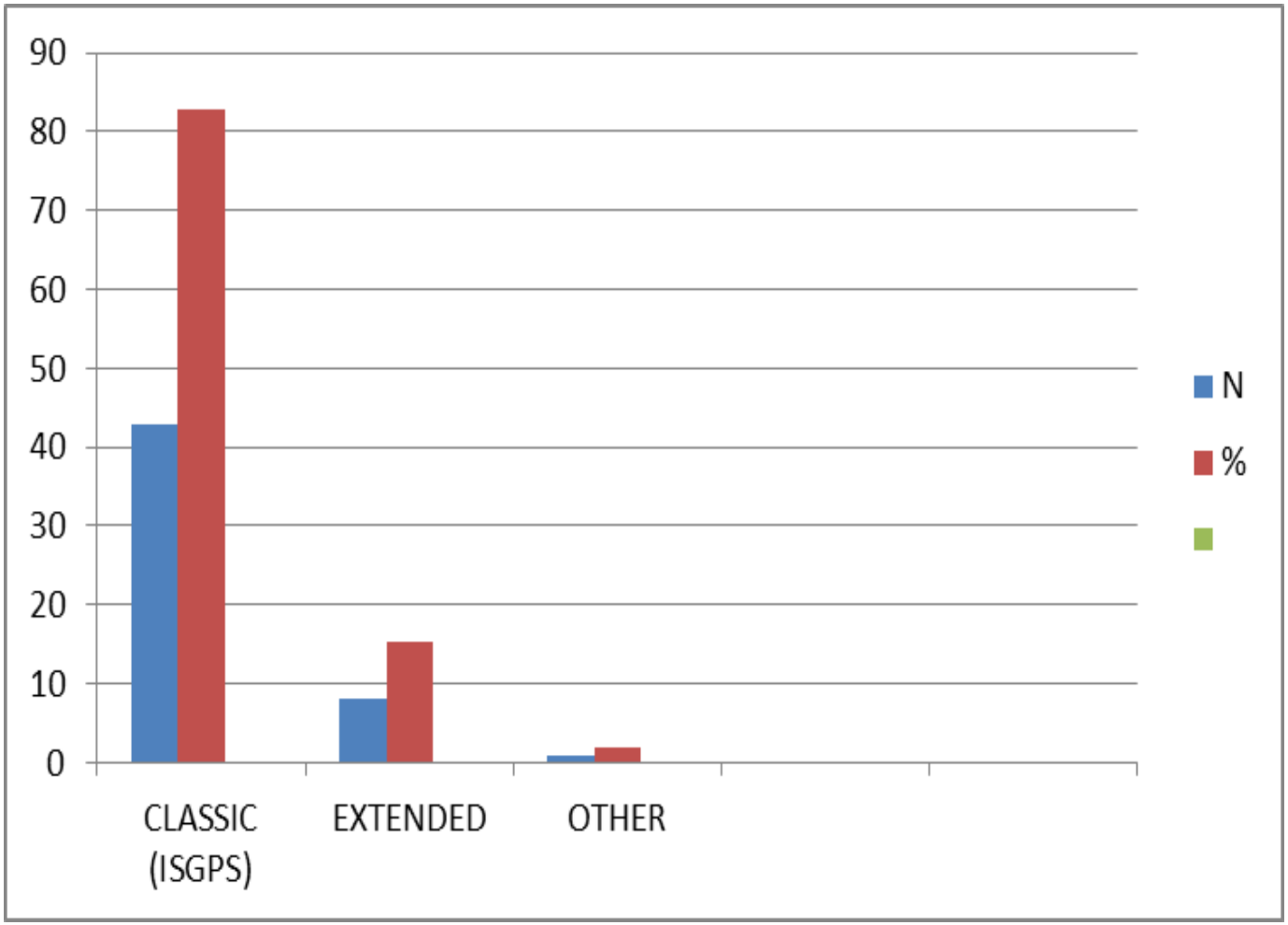
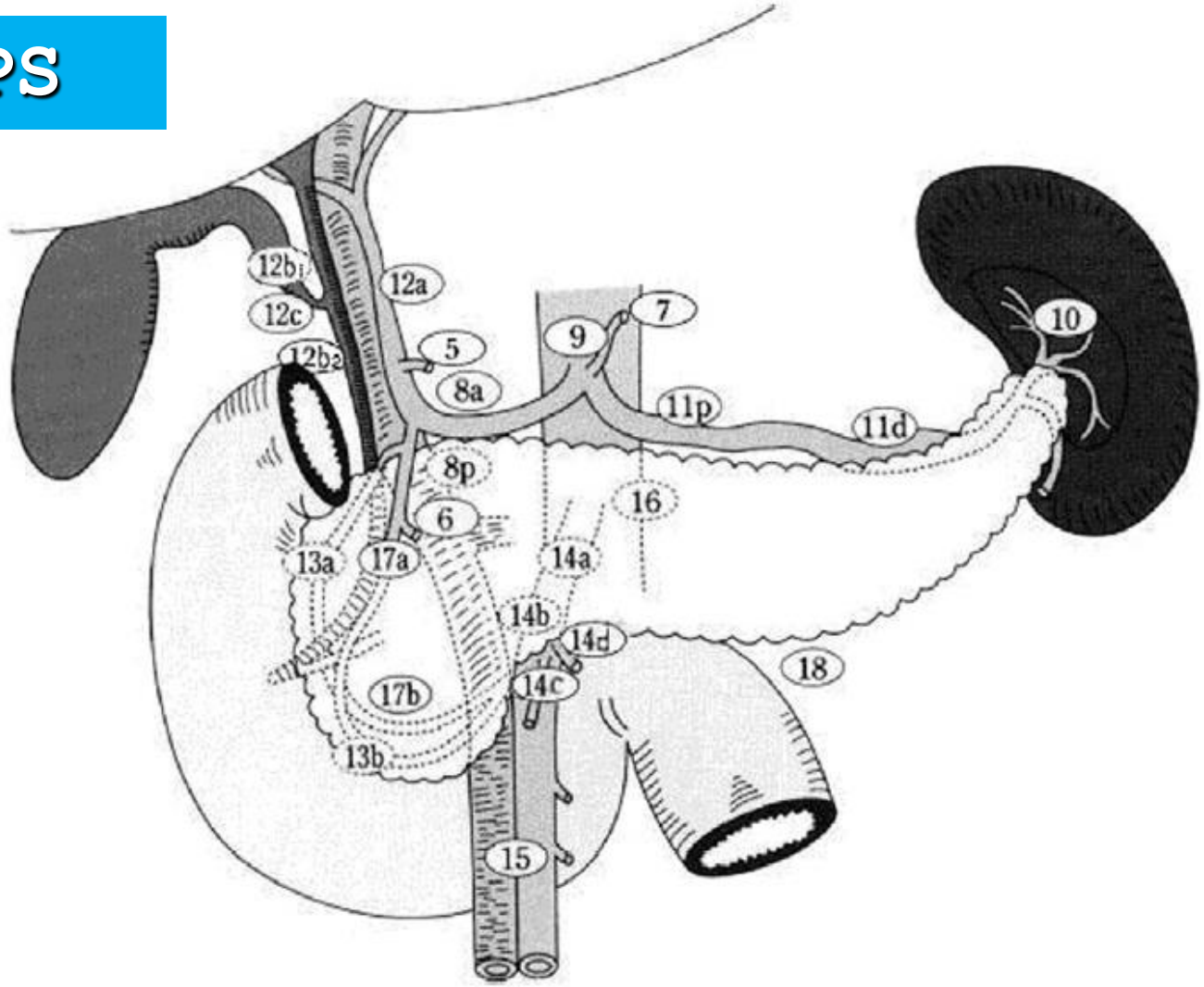


FIGURE 3 – Type of lymphadenectomy performed in Brazil (%)

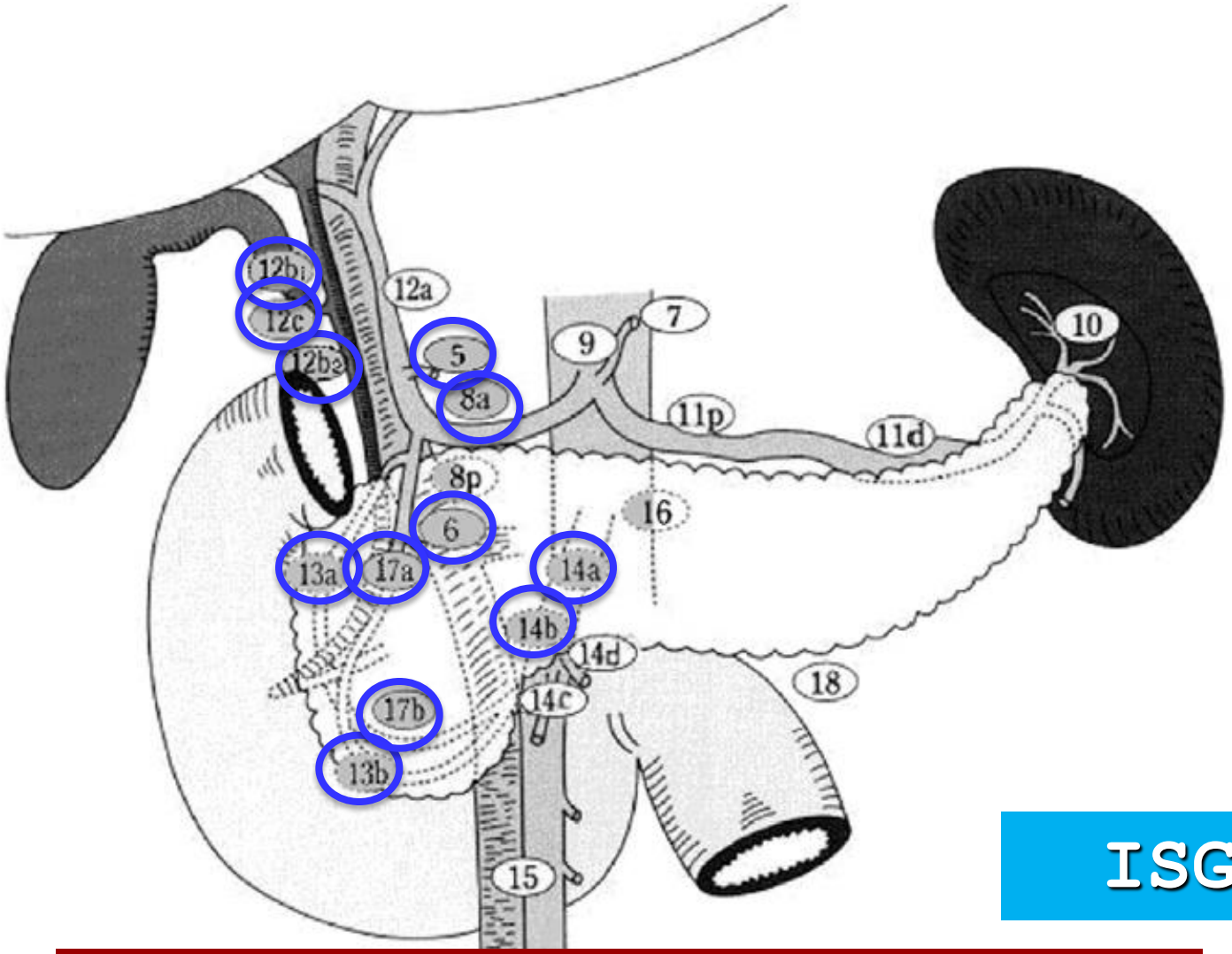
Torres et al. Arq Bras Cir Dig 2017; In press.

ISGPS



- 5, 6, 8a, 12b1, 12b2, 12c, 13a, 13b, 14a, 14b, 17a, and 17b.

Tol JAMG, et al. Surgery 2014;156:591-600.



ISGPS

- 5, 6, 8a, 12b1, 12b2, 12c, 13a, 13b, 14a, 14b, 17a, and 17b.

Tol JAMG, et al. Surgery 2014;156:591-600.

ANASTOMOSIS

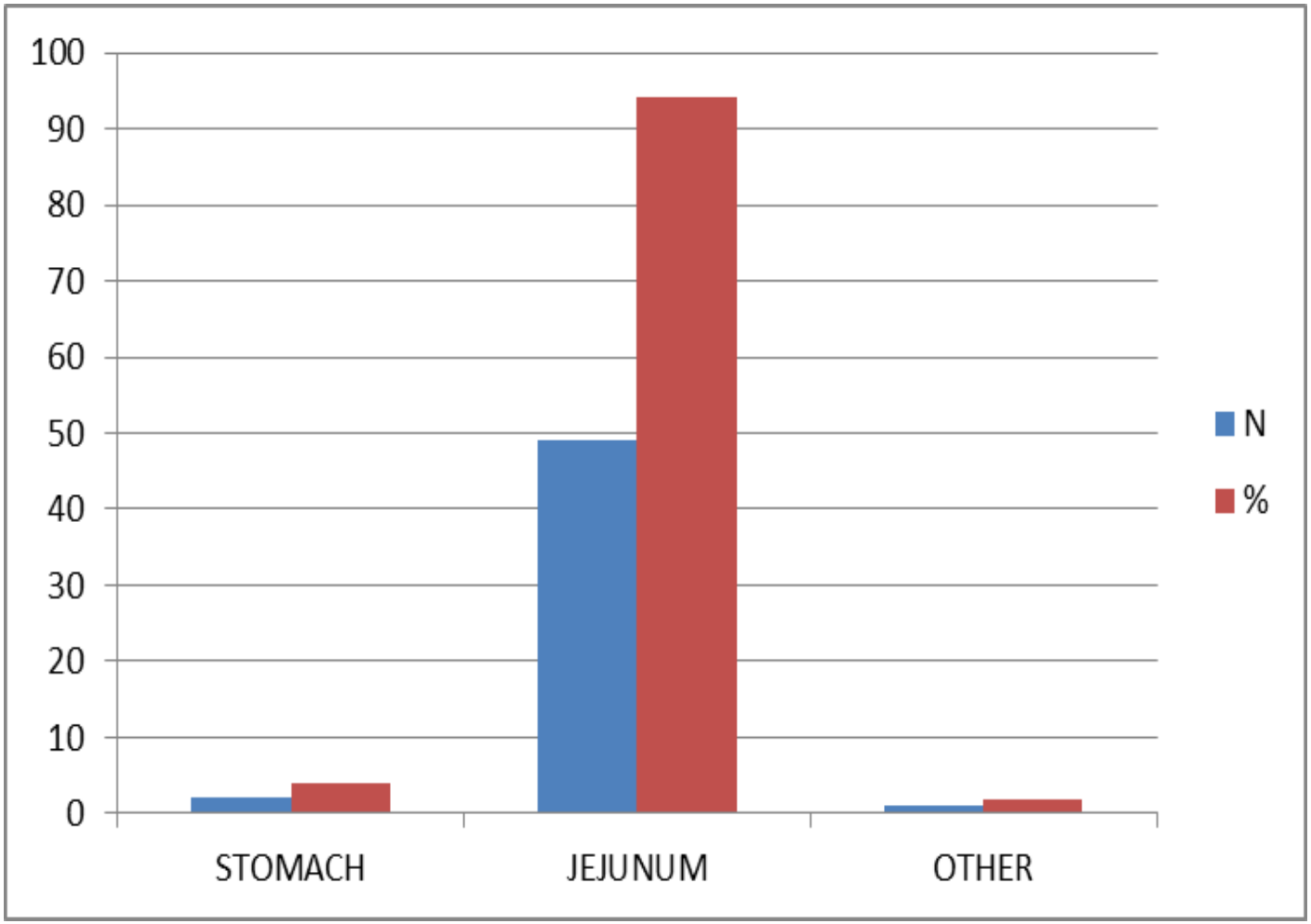
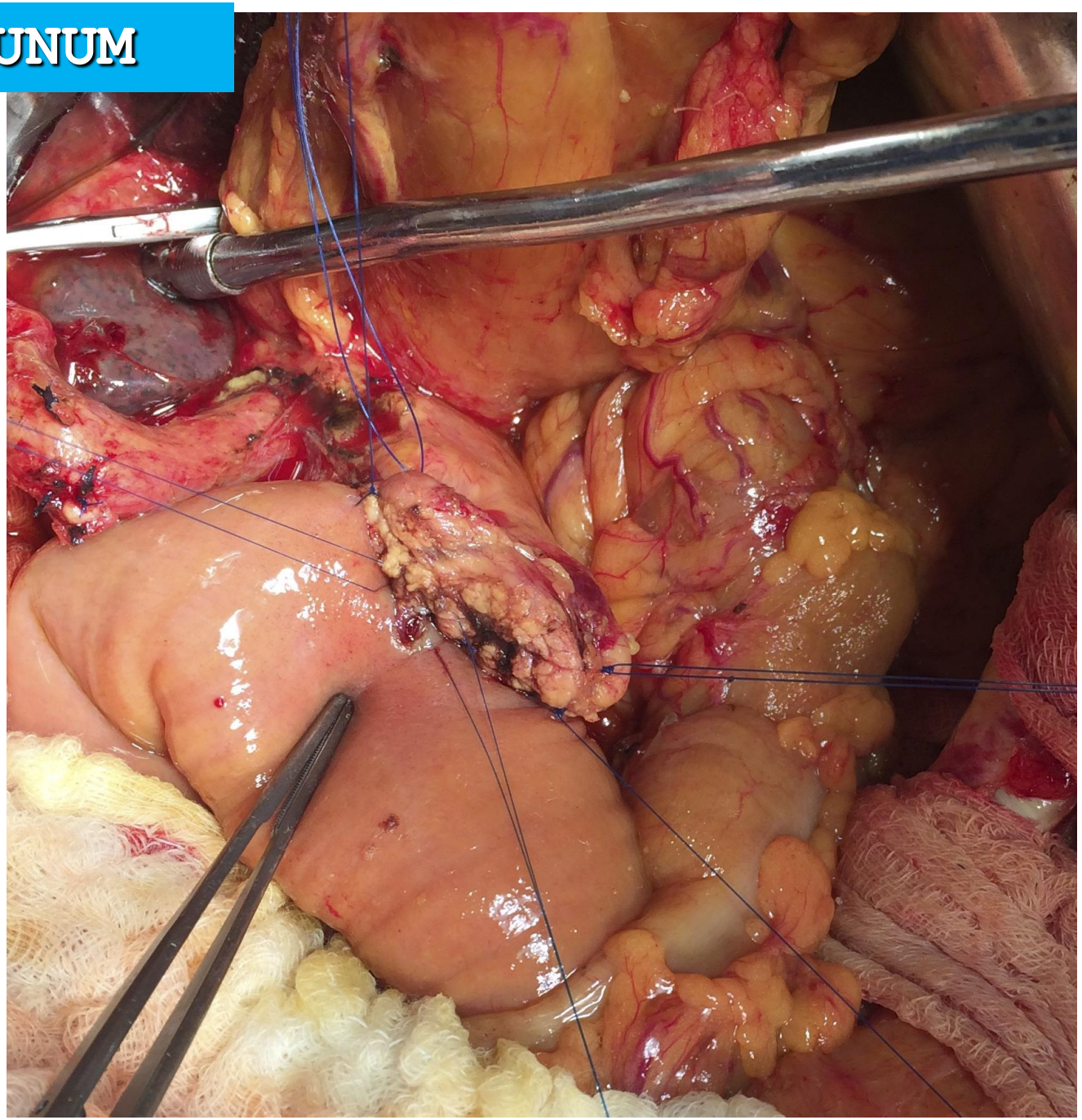


FIGURE 4 – Type of reconstruction (stomach or jejunum) (%)

Torres et al. Arq Bras Cir Dig 2017; In press.

JEJUNUM



ANASTOMOSIS

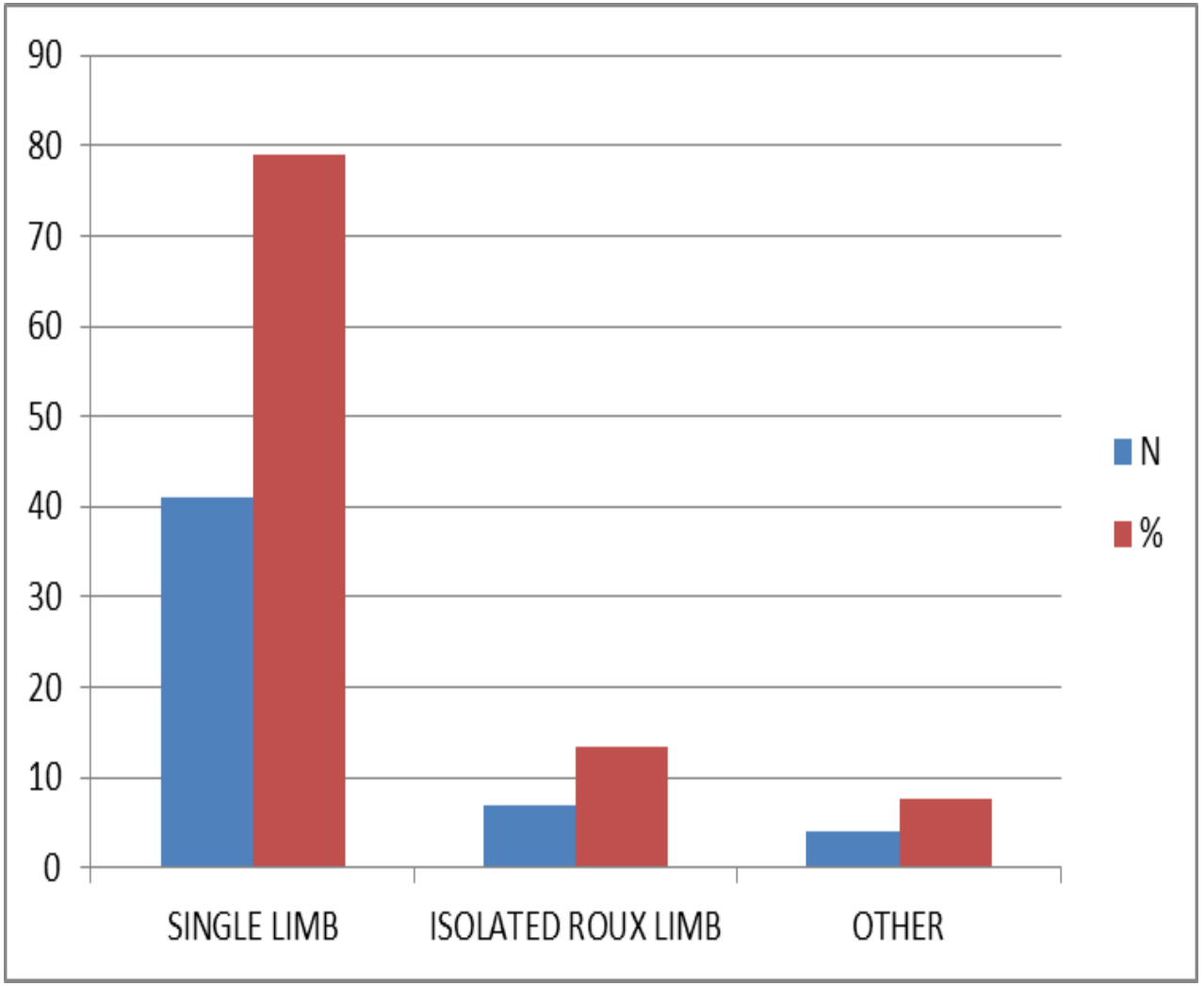


FIGURE 5 – Type of pancreatojejunostomy (single or Roux) (%)

Torres et al. Arq Bras Cir Dig 2017; In press.

ANASTOMOSIS

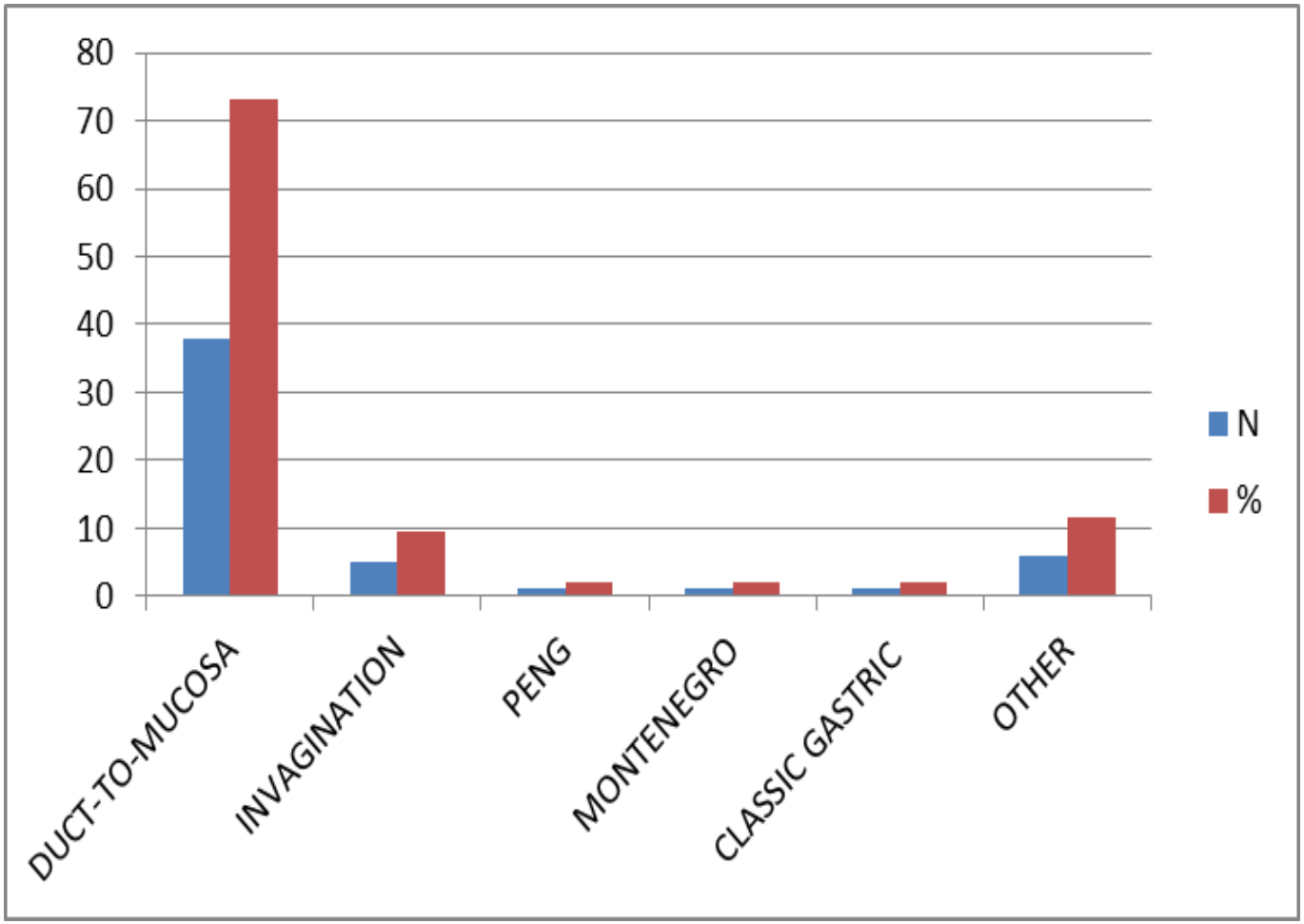
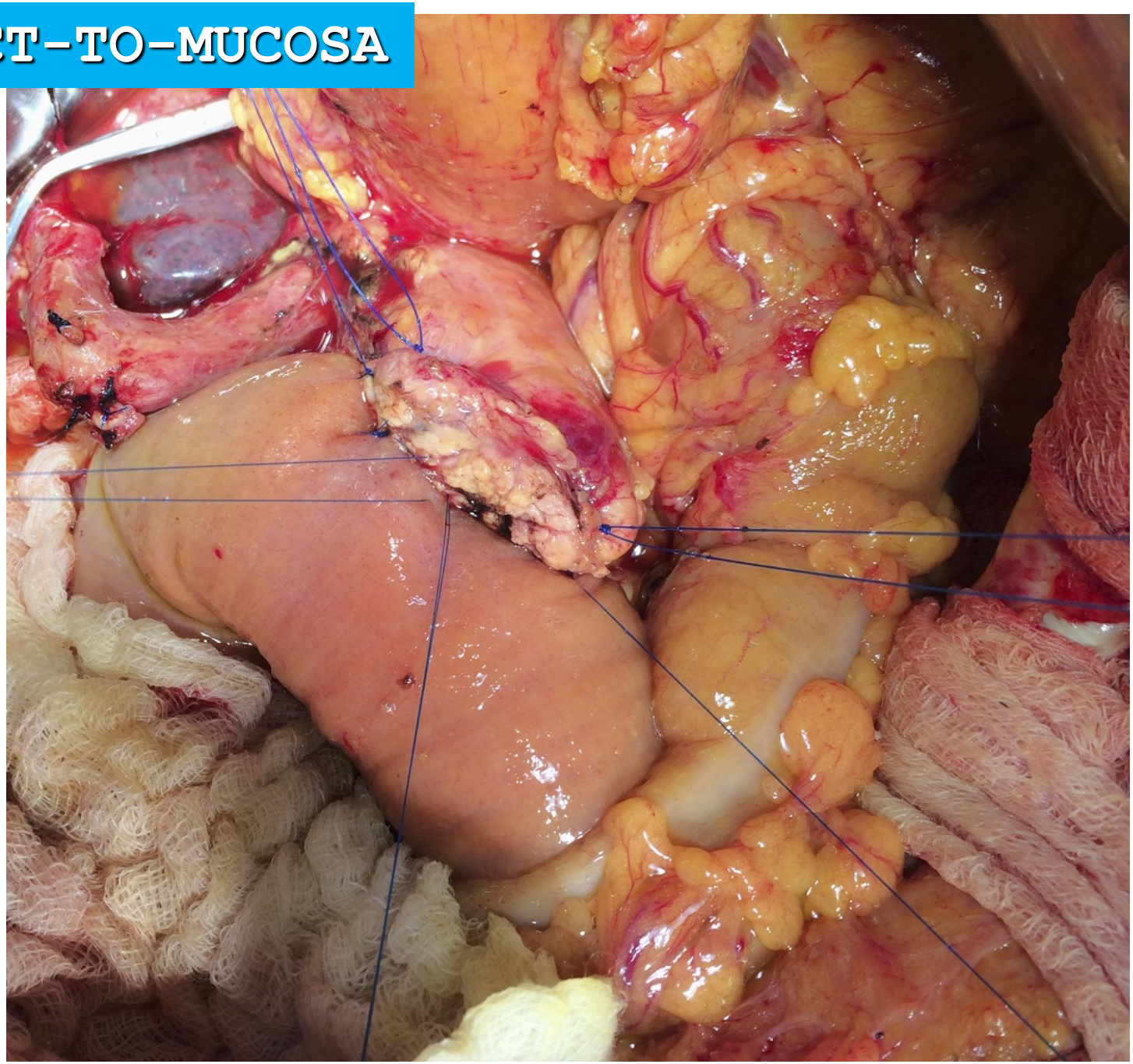


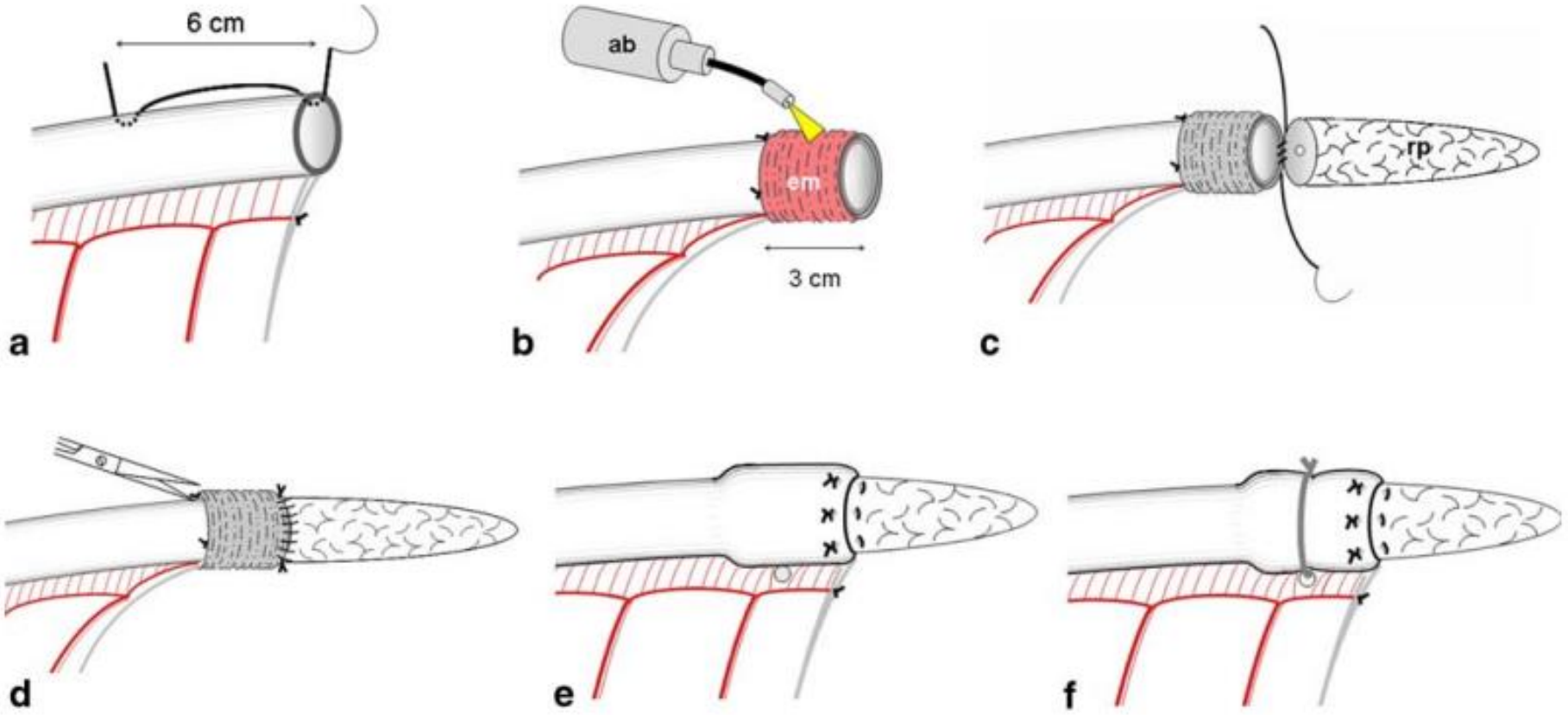
FIGURE 6 – Technical aspects (%)

Torres et al. Arq Bras Cir Dig 2017; In press.

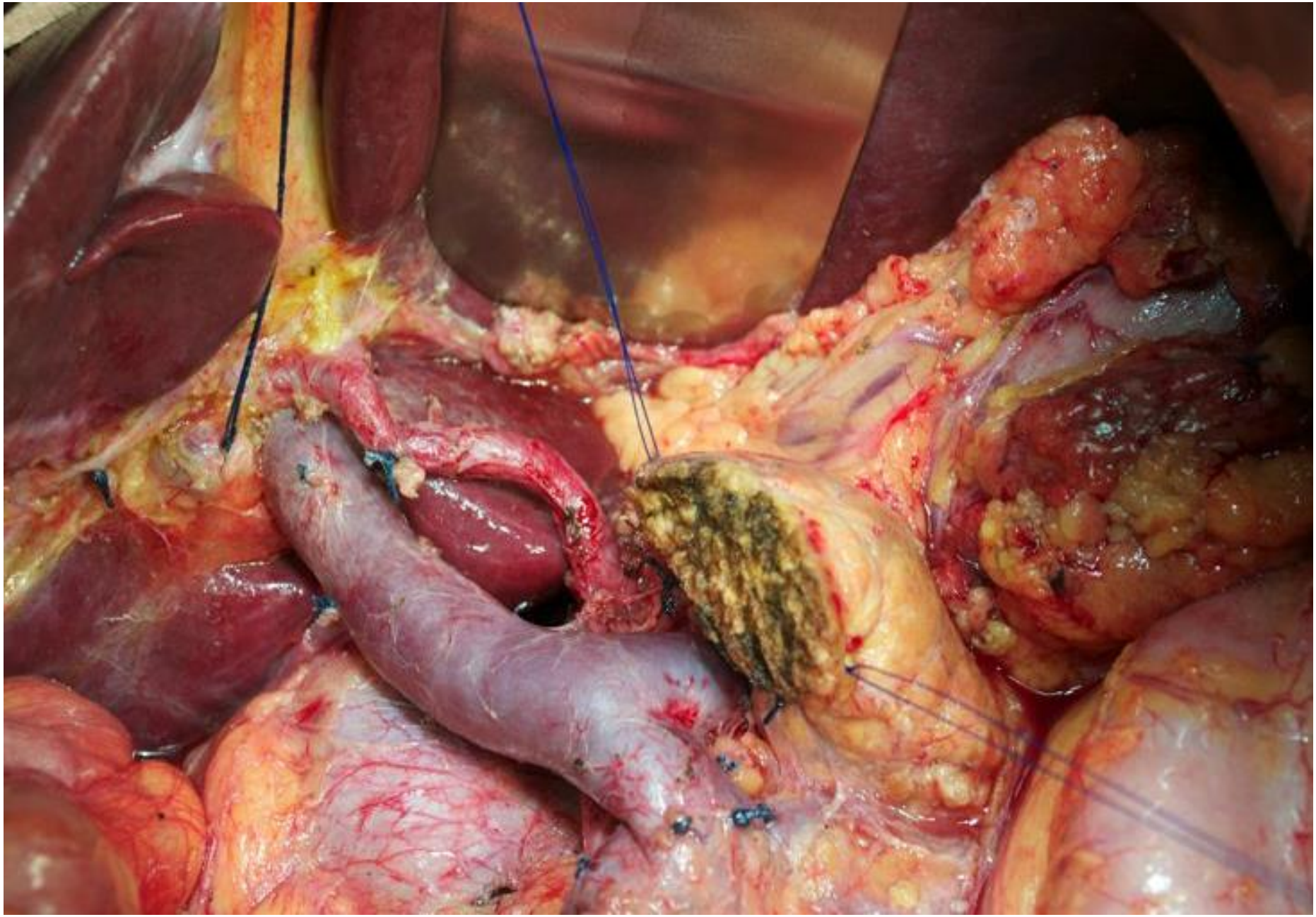
DUCT-TO-MUCOSA

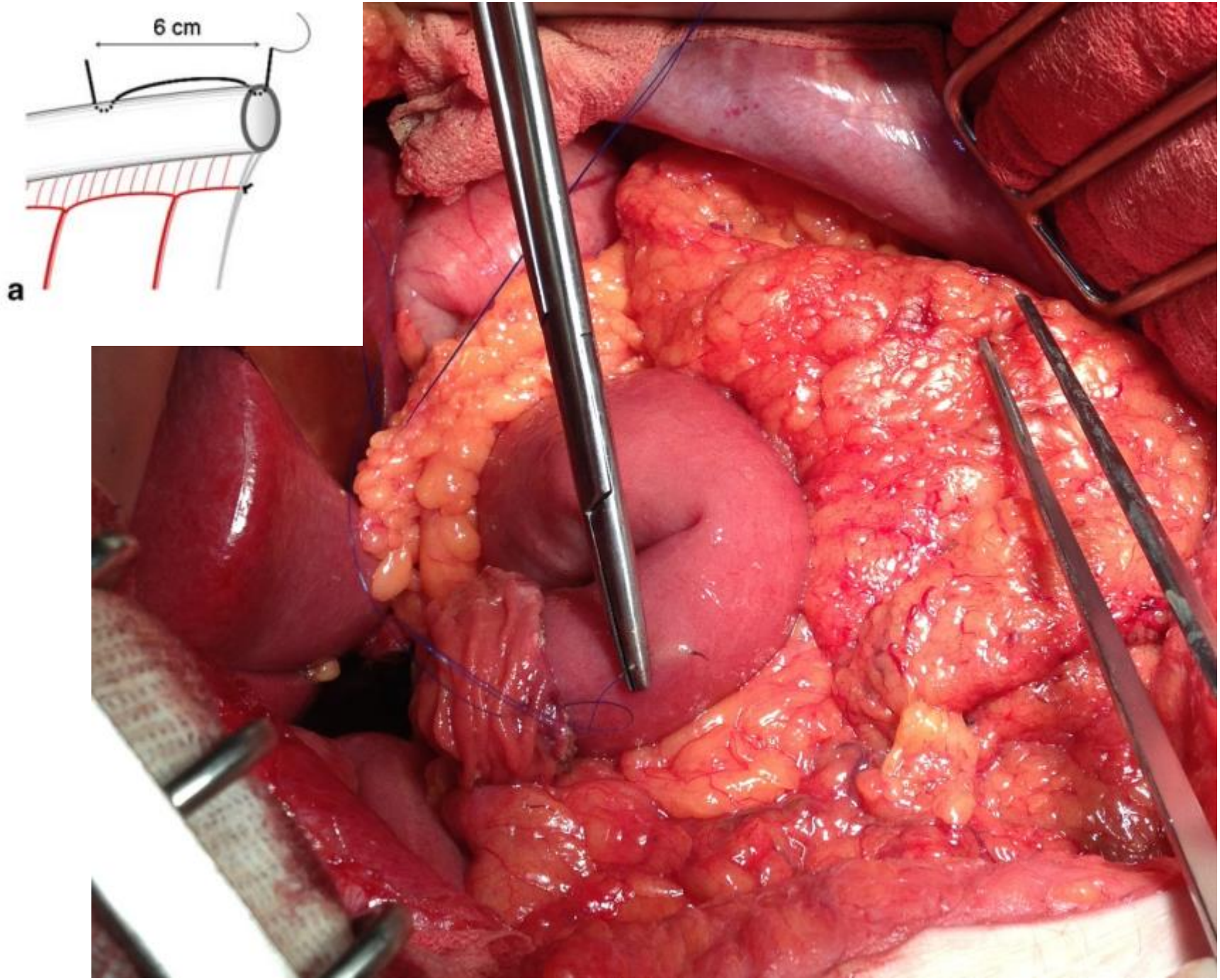


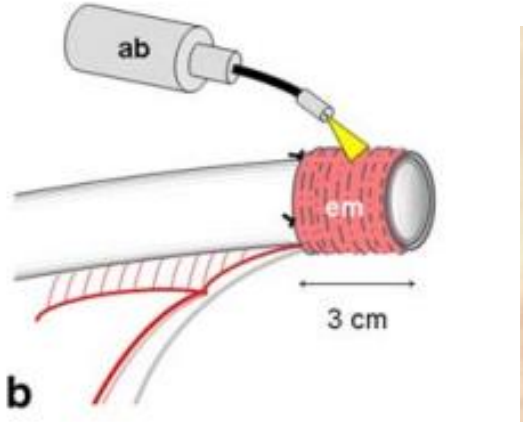
TECHNIQUE

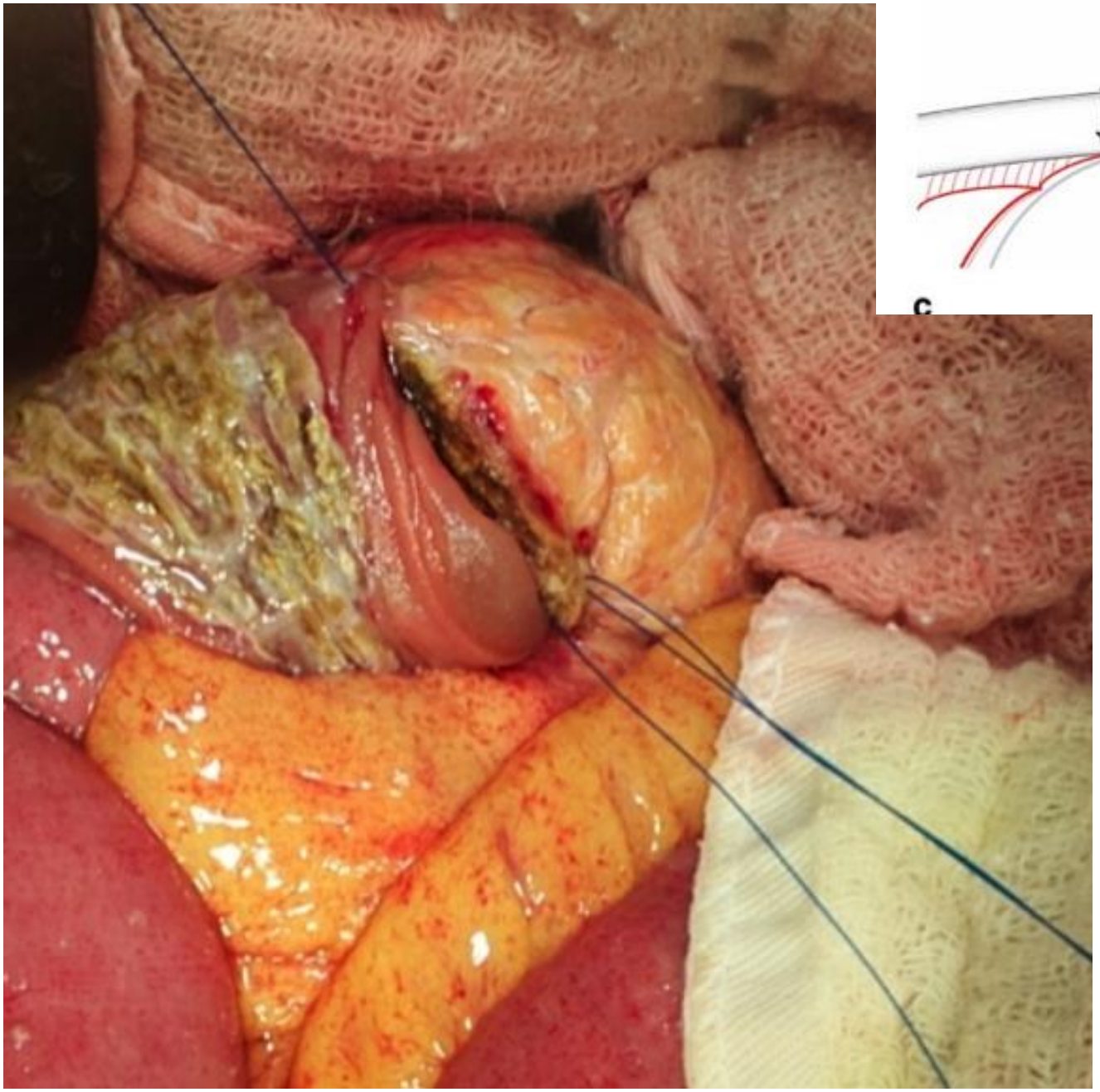


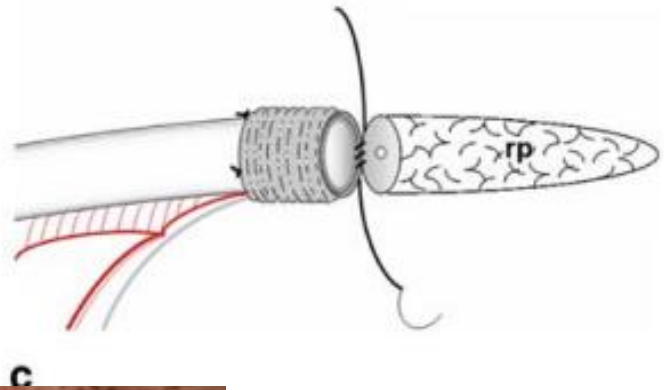
PENG




6 cm
a


ab
em
3 cm
b

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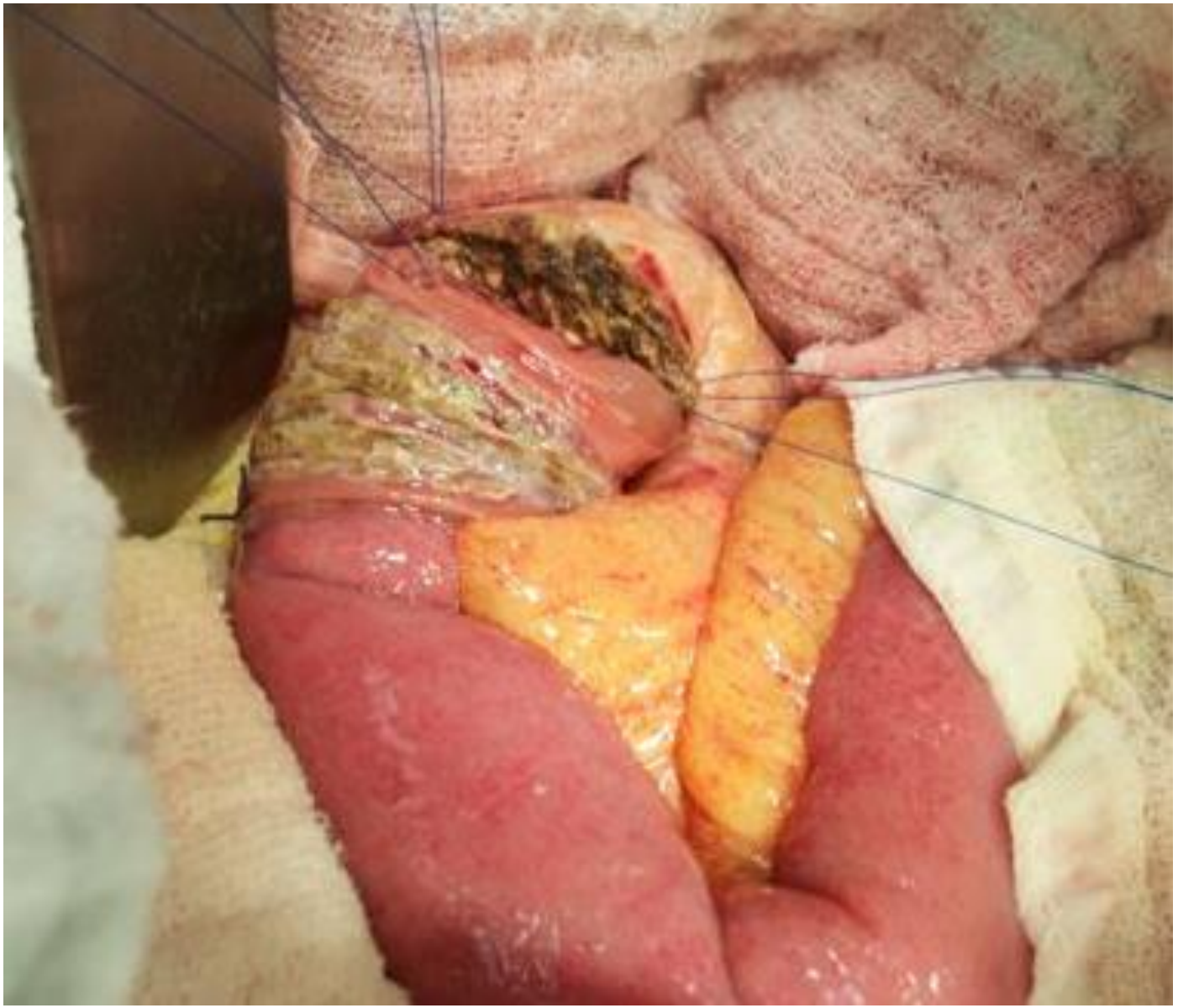

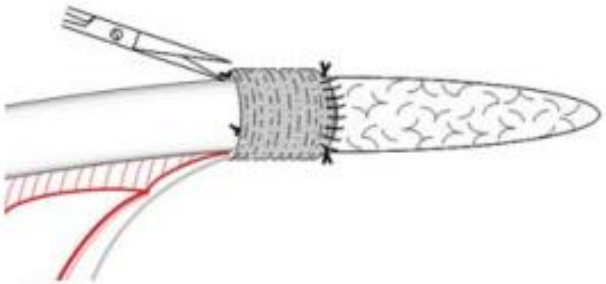

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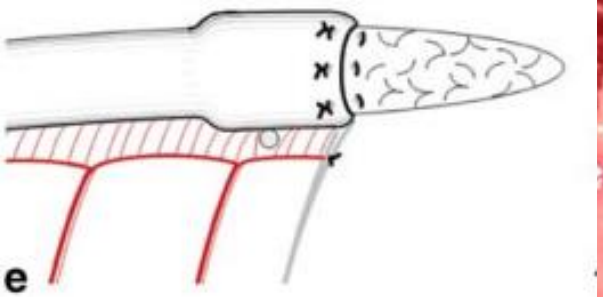
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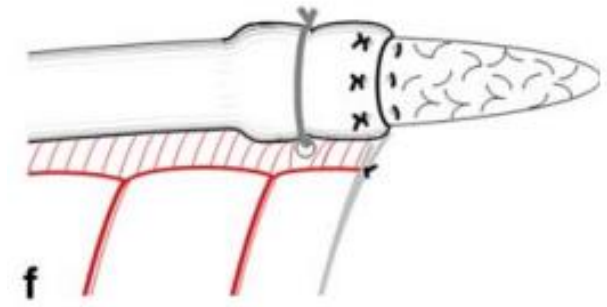
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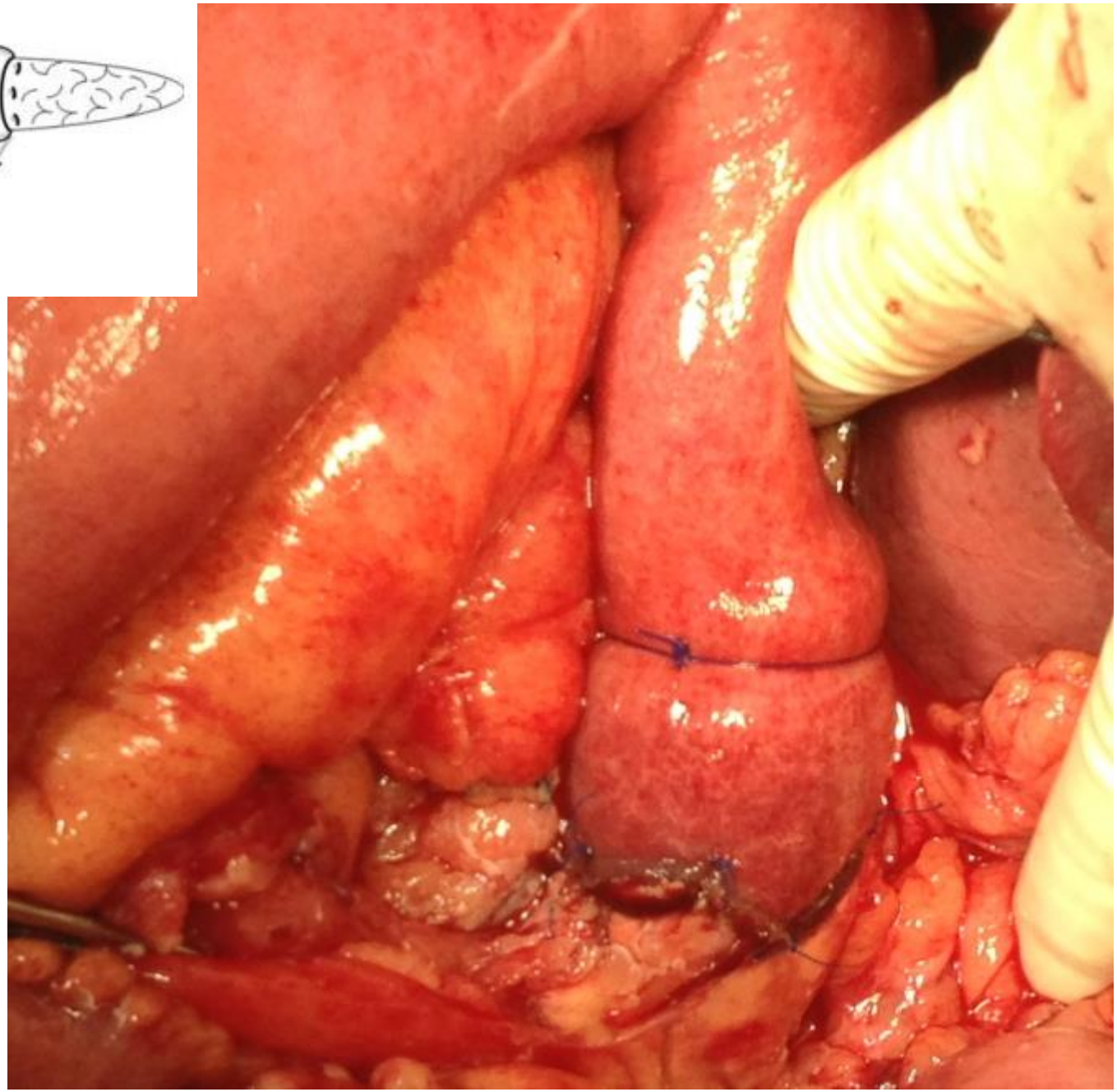
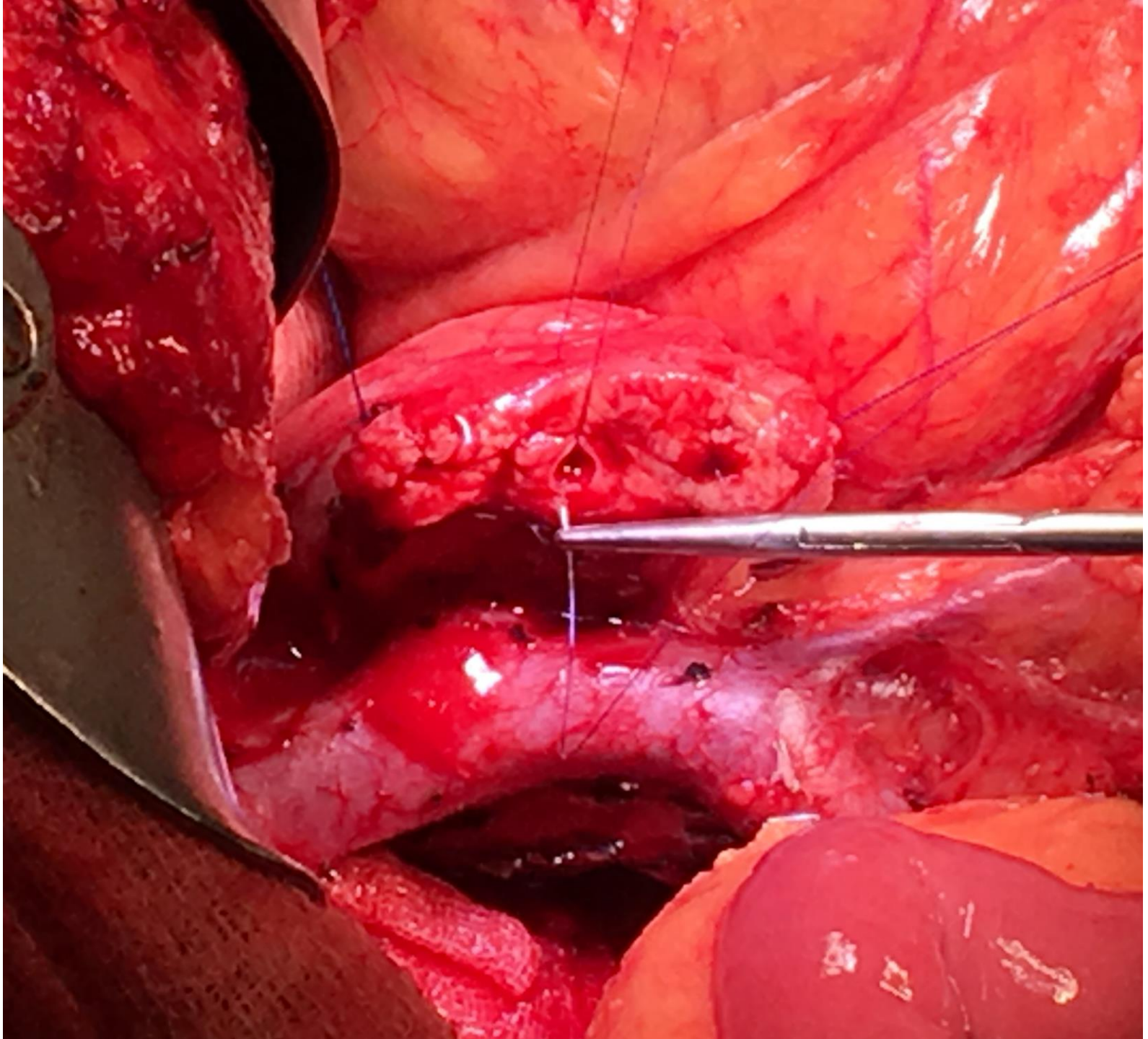


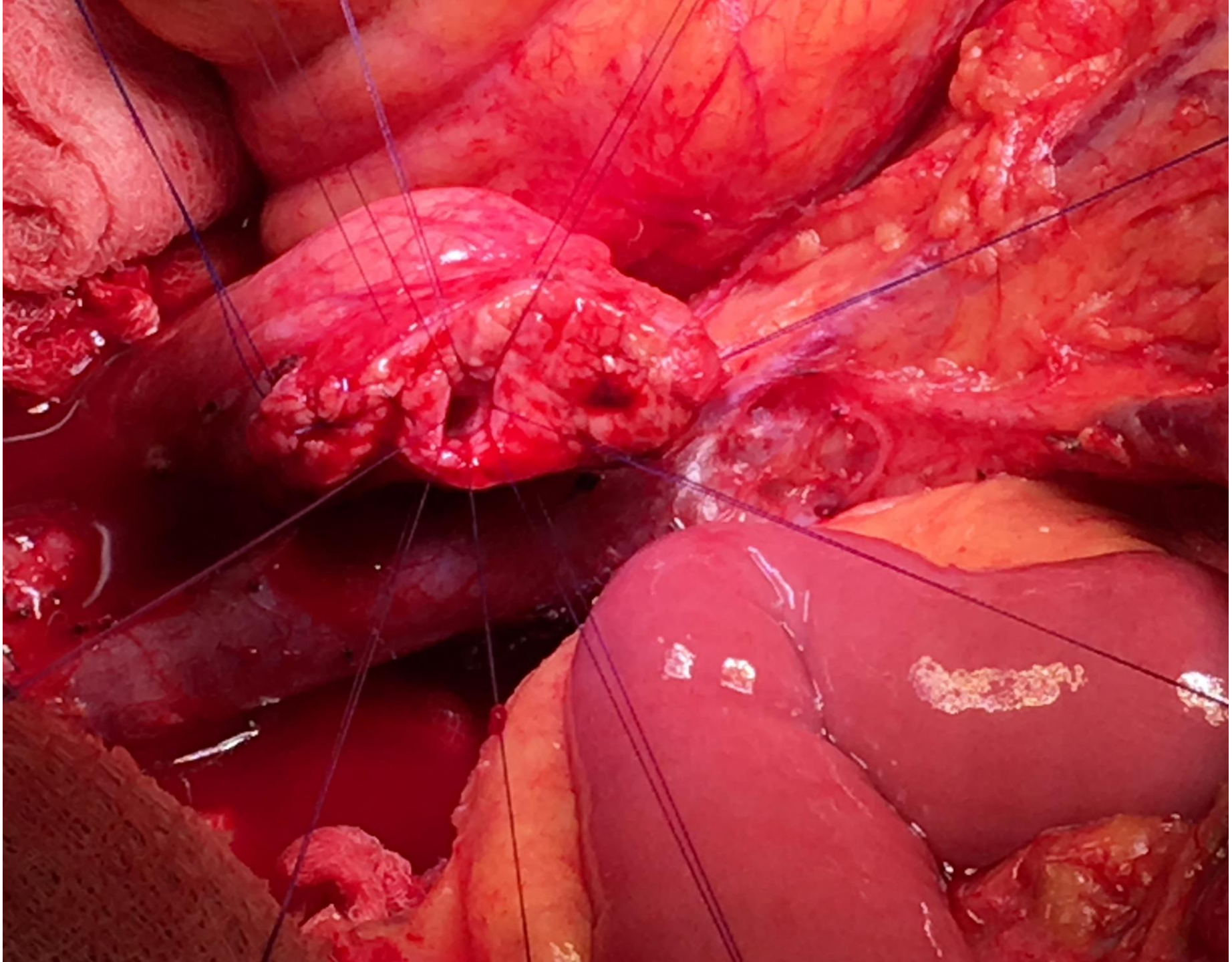
MODIFIED TECHNIQUE

- **TRANSECTION OF THE PANCREAS**
  - Two stay sutures
  - Sharp knife
  - Hemostasis with electrocautery
- **MOBILIZATION OF THE PANCREATIC REMNANT**
  - 2 cm

STEP 1

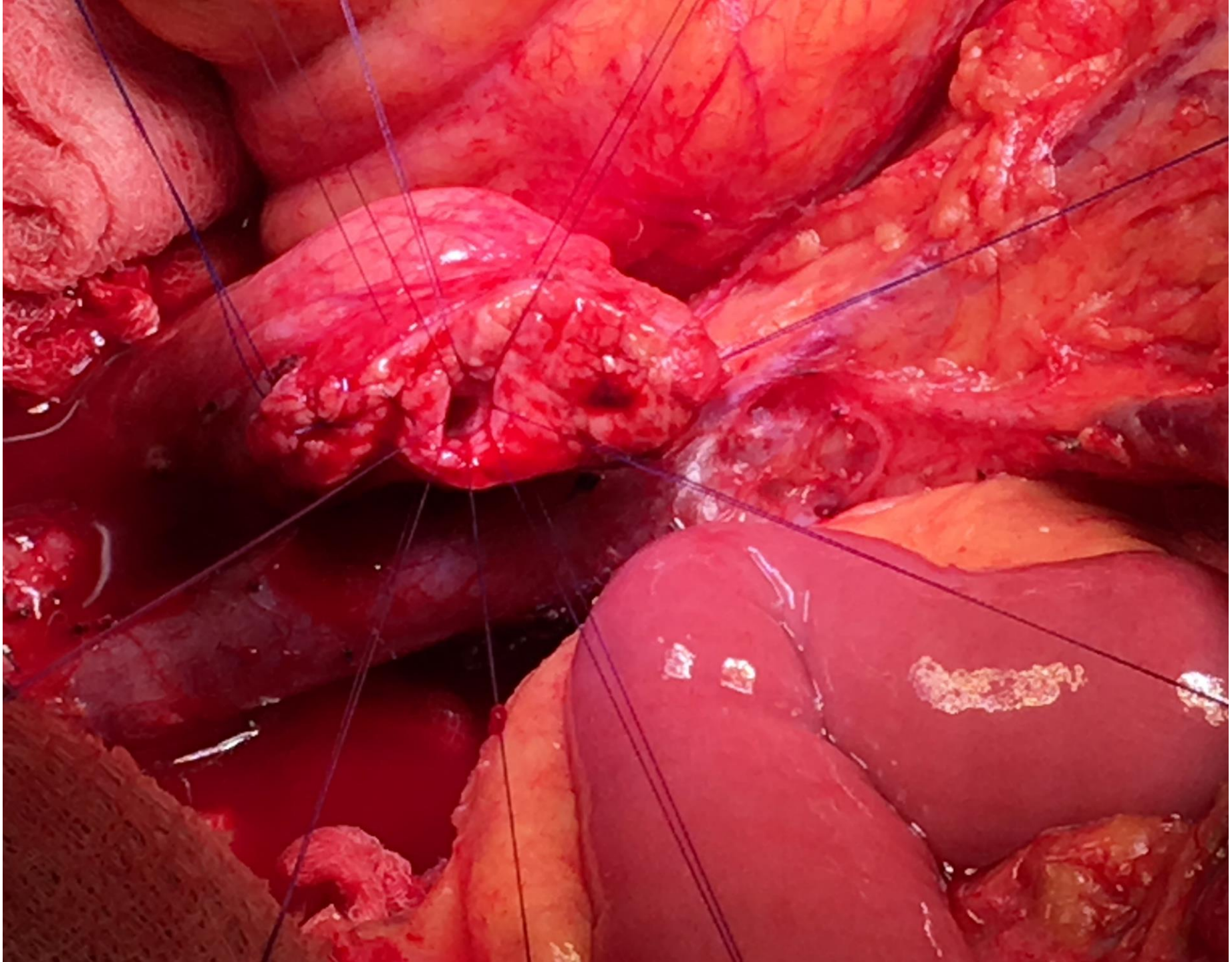
- **POSTERIOR DUCT-PANCREATIC SUTURE**
  - Three sutures
  - Into the pancreatic duct
  - 4 o'clock, 6 o'clock and 8 o'clock
  - Full thickness
  - Until the posterior wall
  - From inside to outside
  - 4-0 prolene (Ethicon)





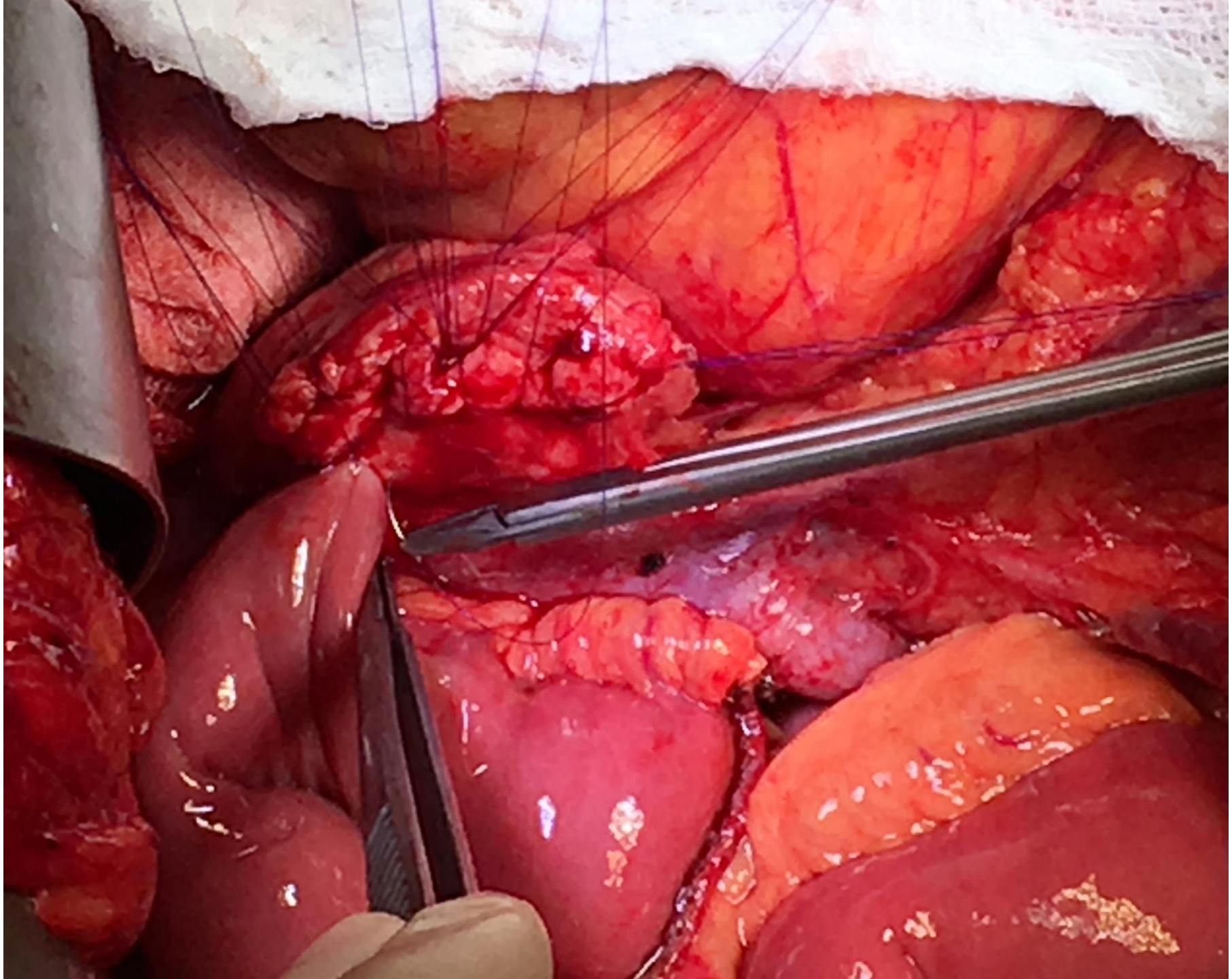
STEP 2

- **ANTERIOR DUCT-PANCREATIC SUTURE**
  - Three sutures
  - Into the pancreatic duct
  - 10 o'clock, 12 o'clock and 2 o'clock
  - Full thickness
  - Until the anterior wall
  - From inside to outside
  - 4-0 prolene (Ethicon)



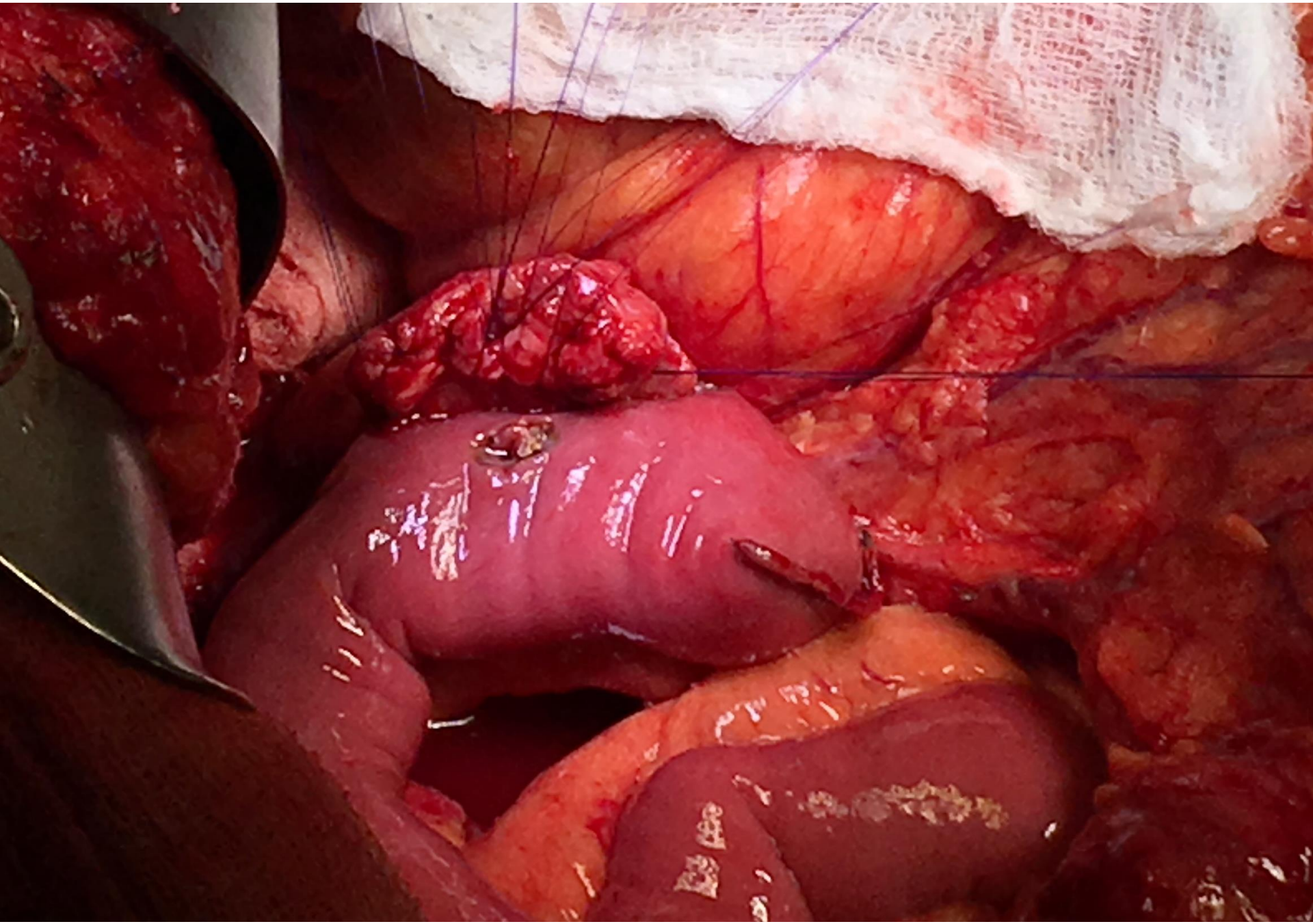
STEP 3

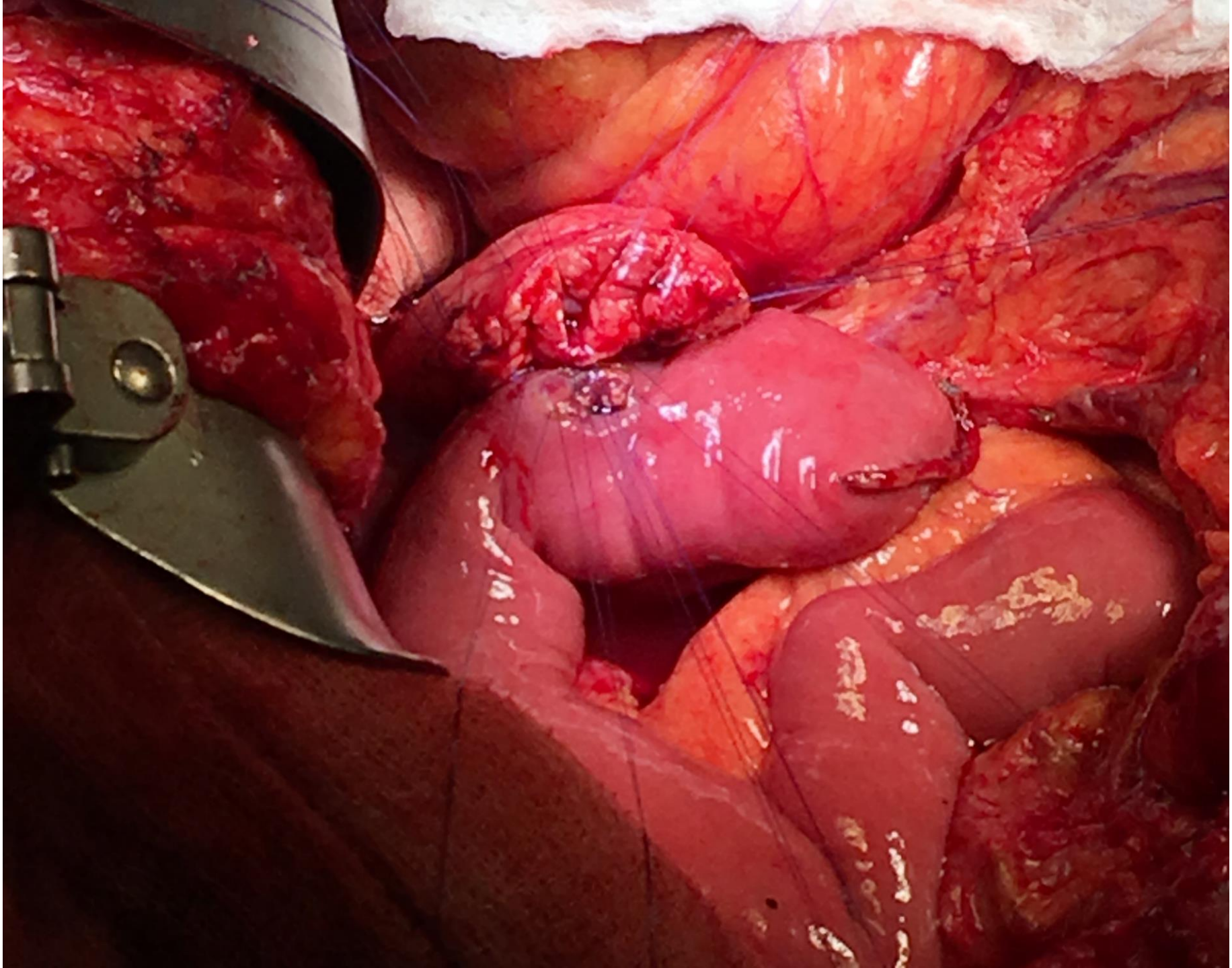
- **POSTERIOR OUTER LAYER**
  - Duct-pancreatic suture are suspended
  - Running suture 5-0 prolene
  - Posterior aspect of the pancreas
  - Jejunal seromuscular layer



STEP 4

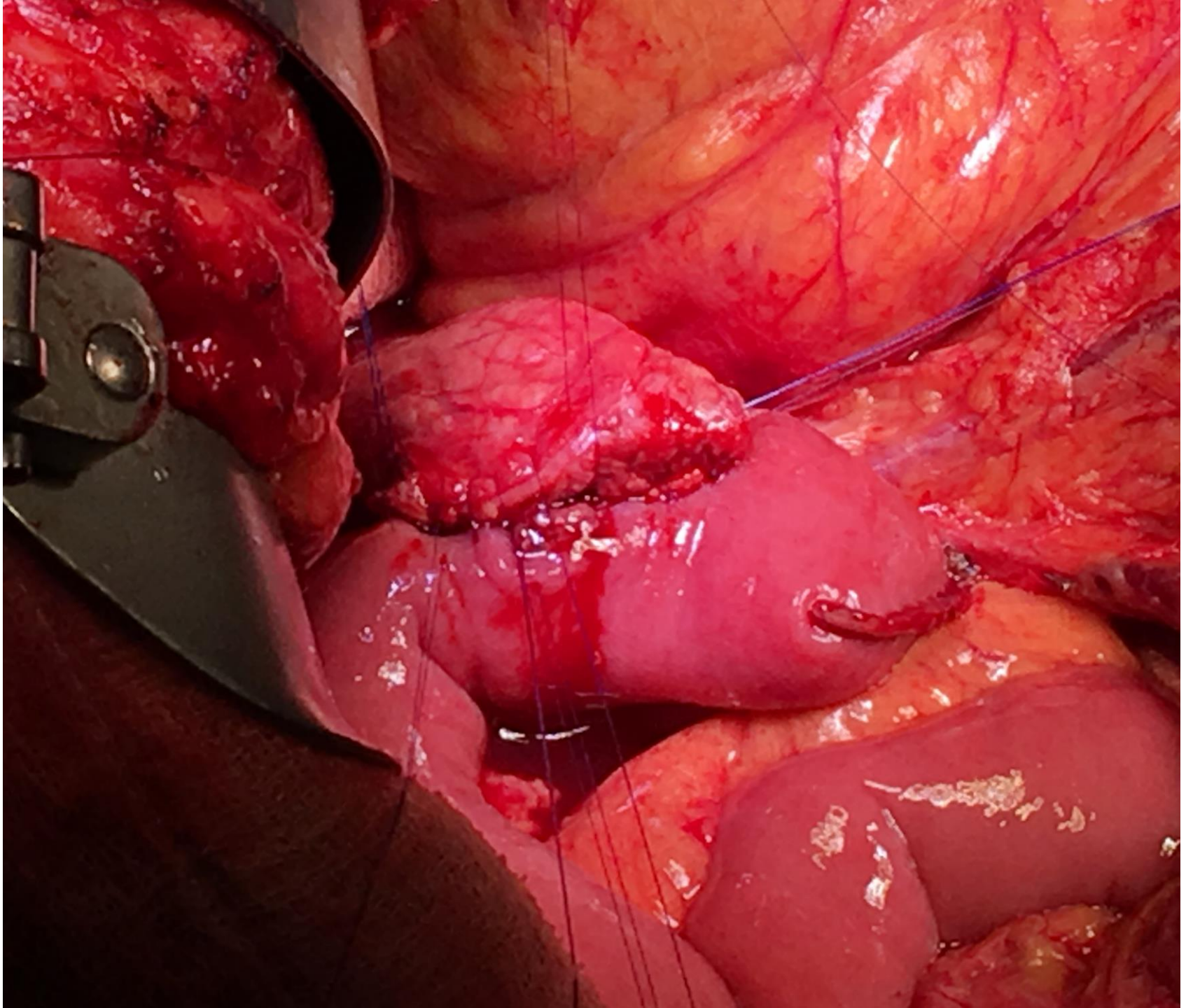
- **POSTERIOR INNER LAYER**
  - The jejunum is now opened
  - Sutures passed from outside to inside
  - Sutures are knotted at this time

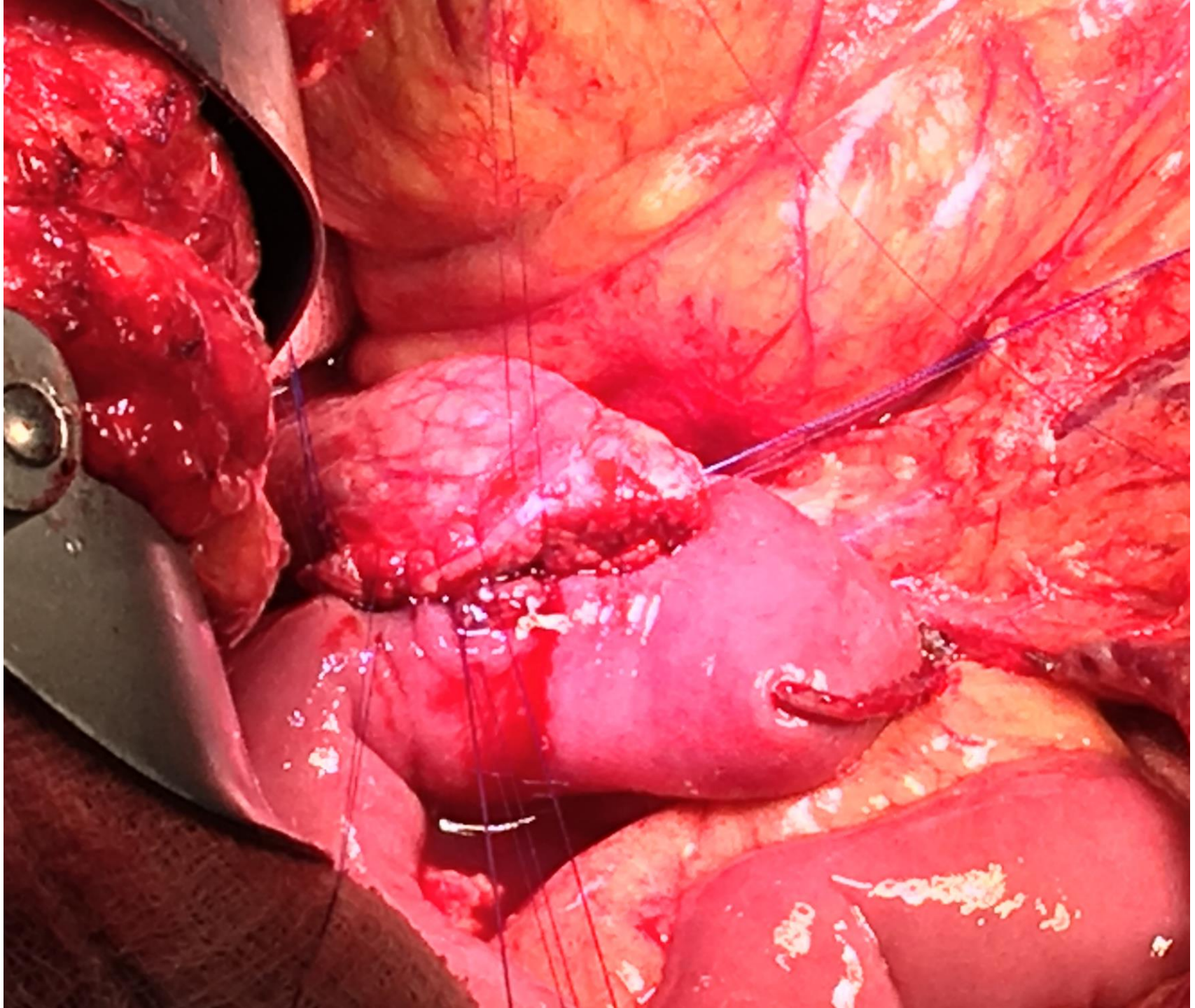




STEP 5

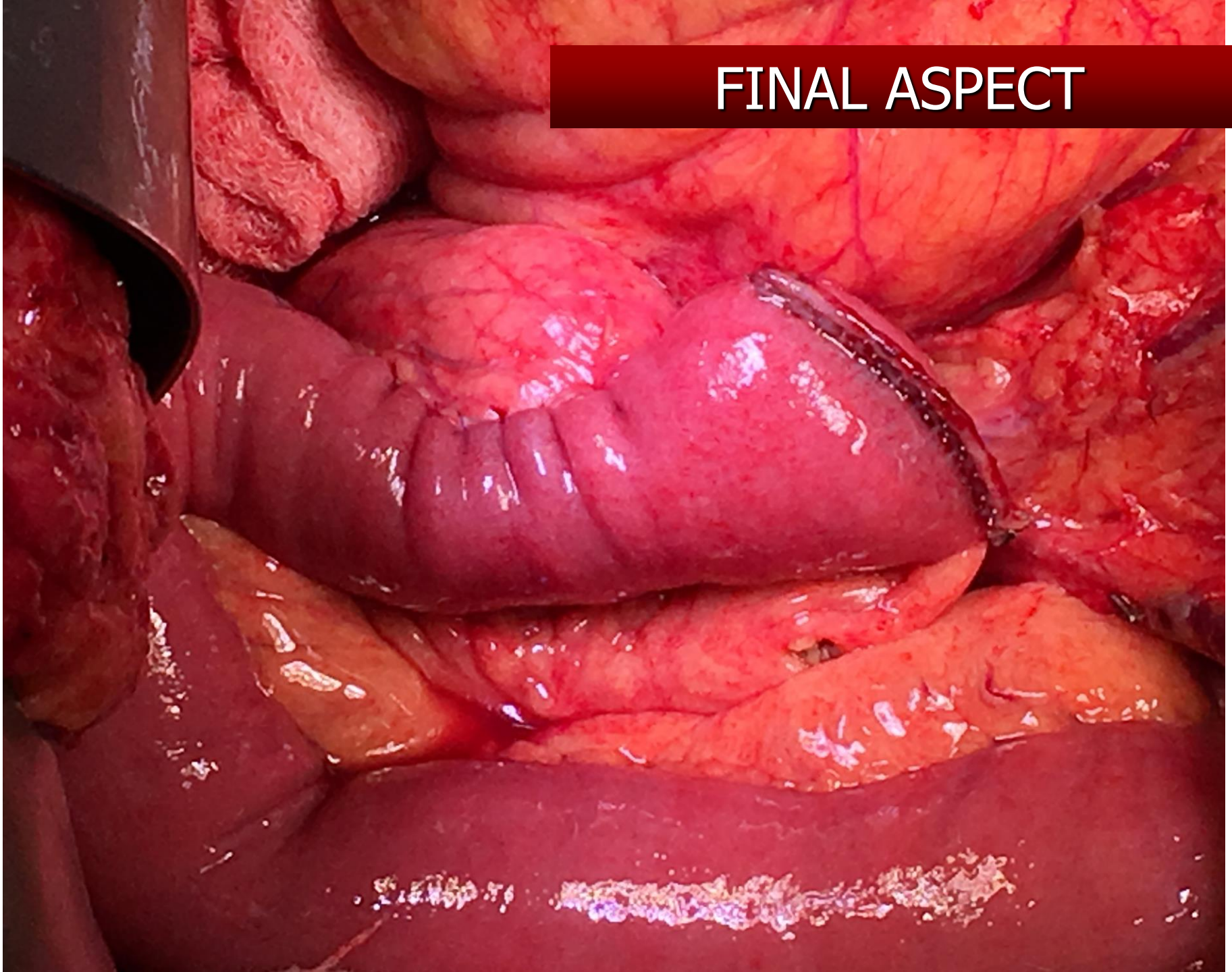
- **ANTERIOR INNER LAYER**
  - Sutures passed from inside to outside
  - Sutures are knotted





STEP 6

- **ANTERIOR OUTER LAYER**
  - Running suture 5-0 prolene
  - Anterior aspect of the pancreas
  - Jejunal seromuscular layer

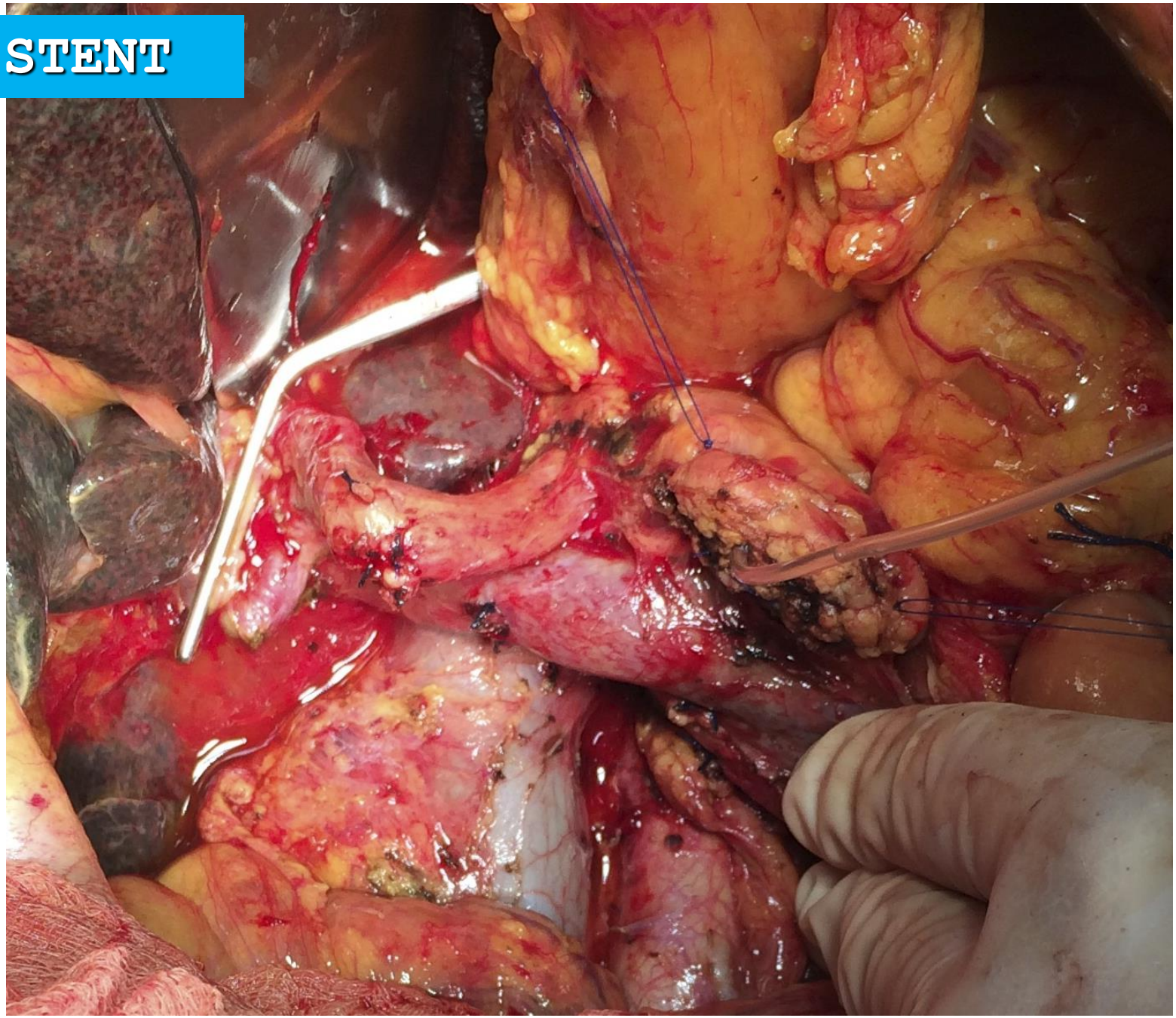

FINAL ASPECT

STENT INTO THE PANCREATIC DUCT

❑ INTERNAL	50.0%
❑ EXTERNAL	3.9%
❑ NO STENT	46.1%

Torres et al. Arq Bras Cir Dig 2017; In press.

STENT



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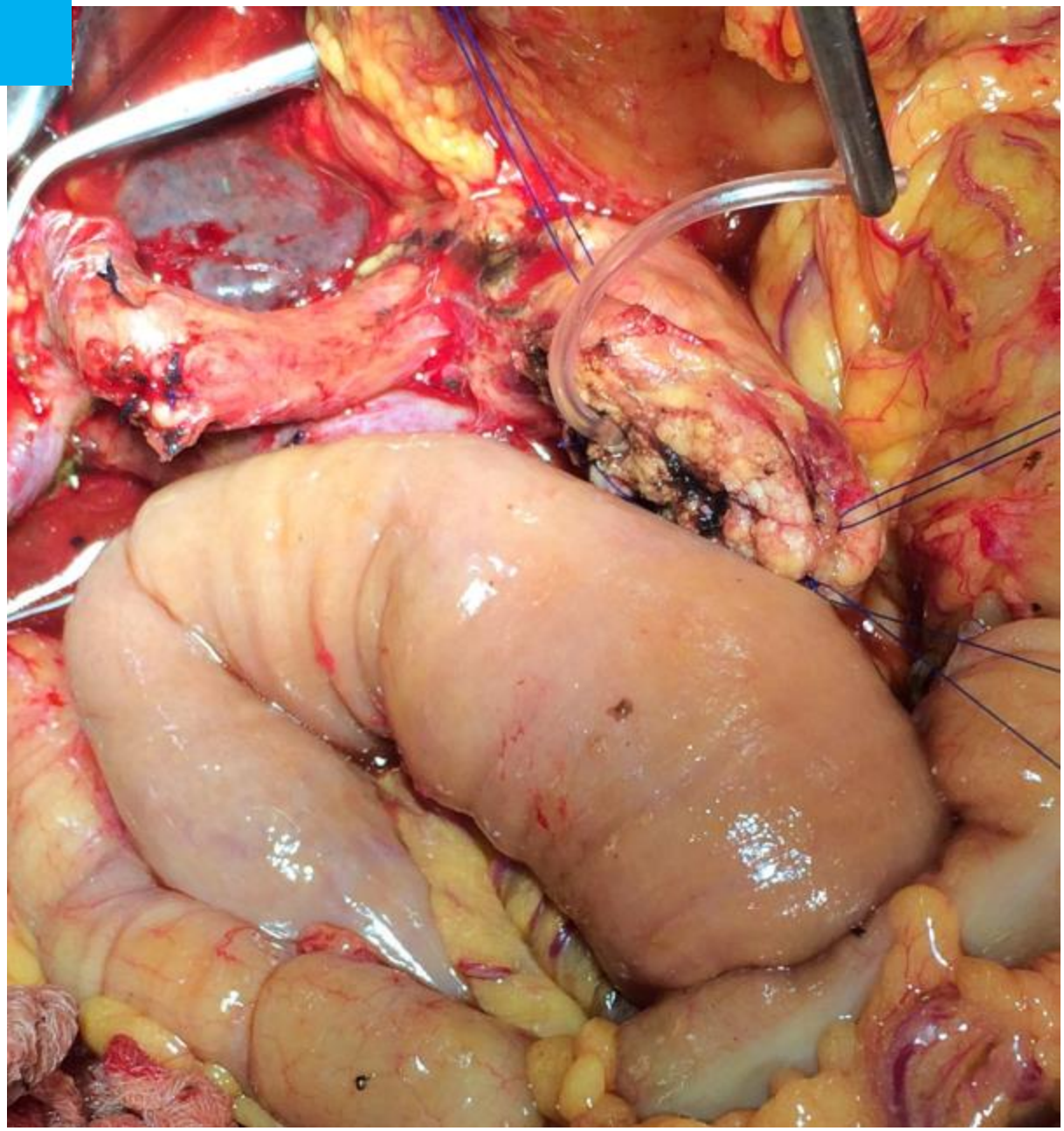
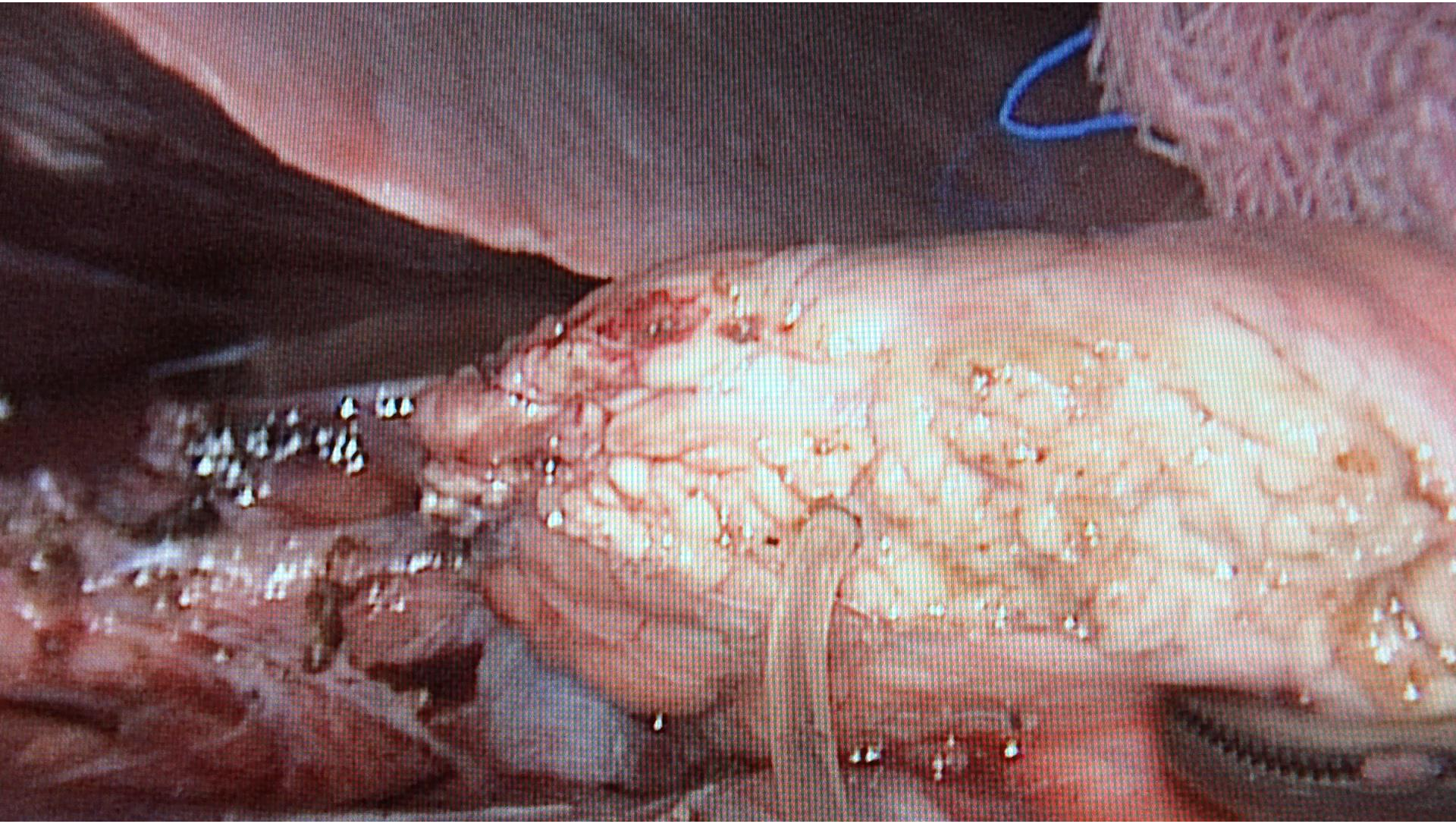




Anastomosis

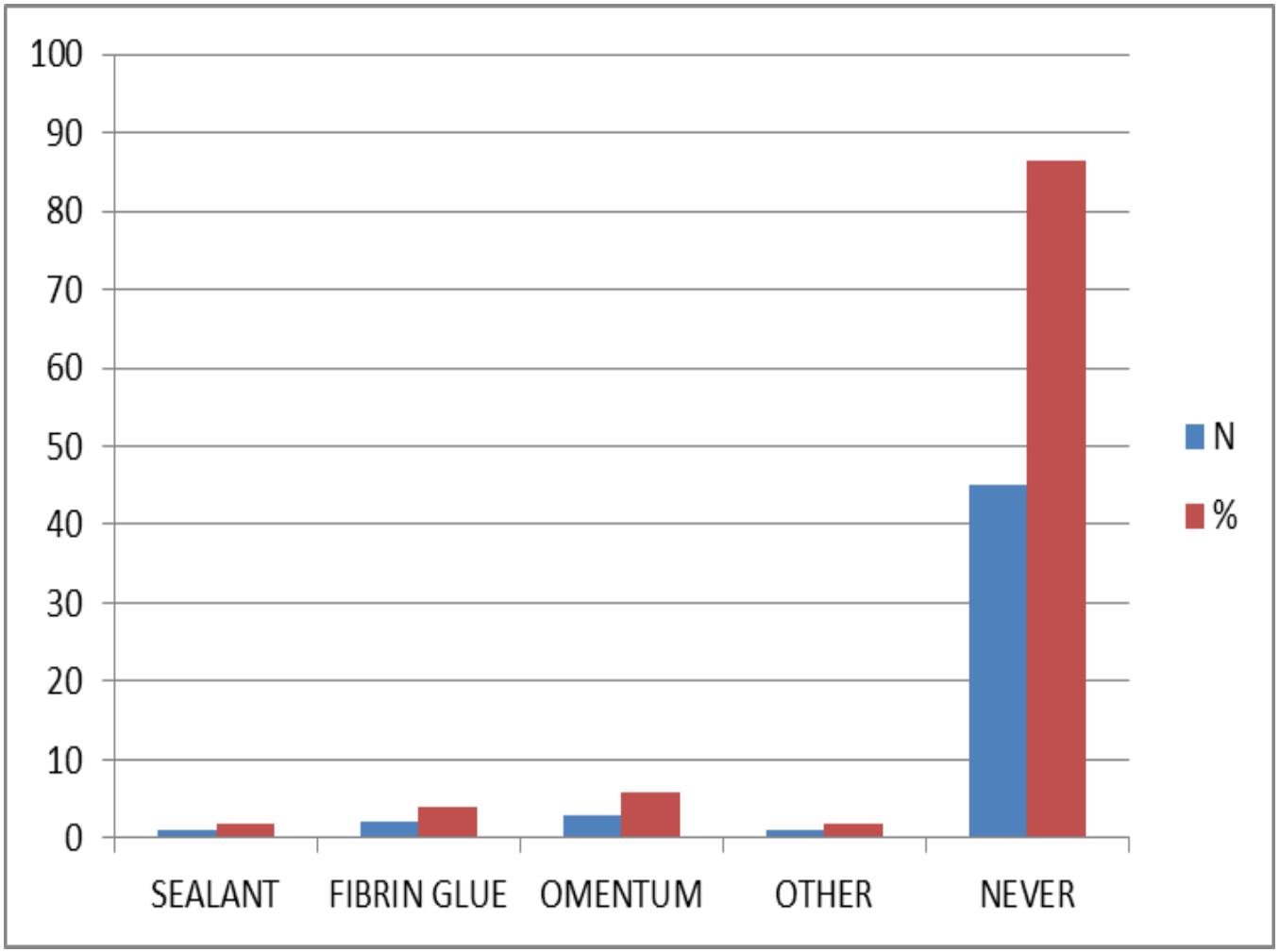


FIGURE 7 – Maneuver to protect the anastomosis (%)

Torres et al. Arq Bras Cir Dig 2017; In press.

Gastric Reconstruction

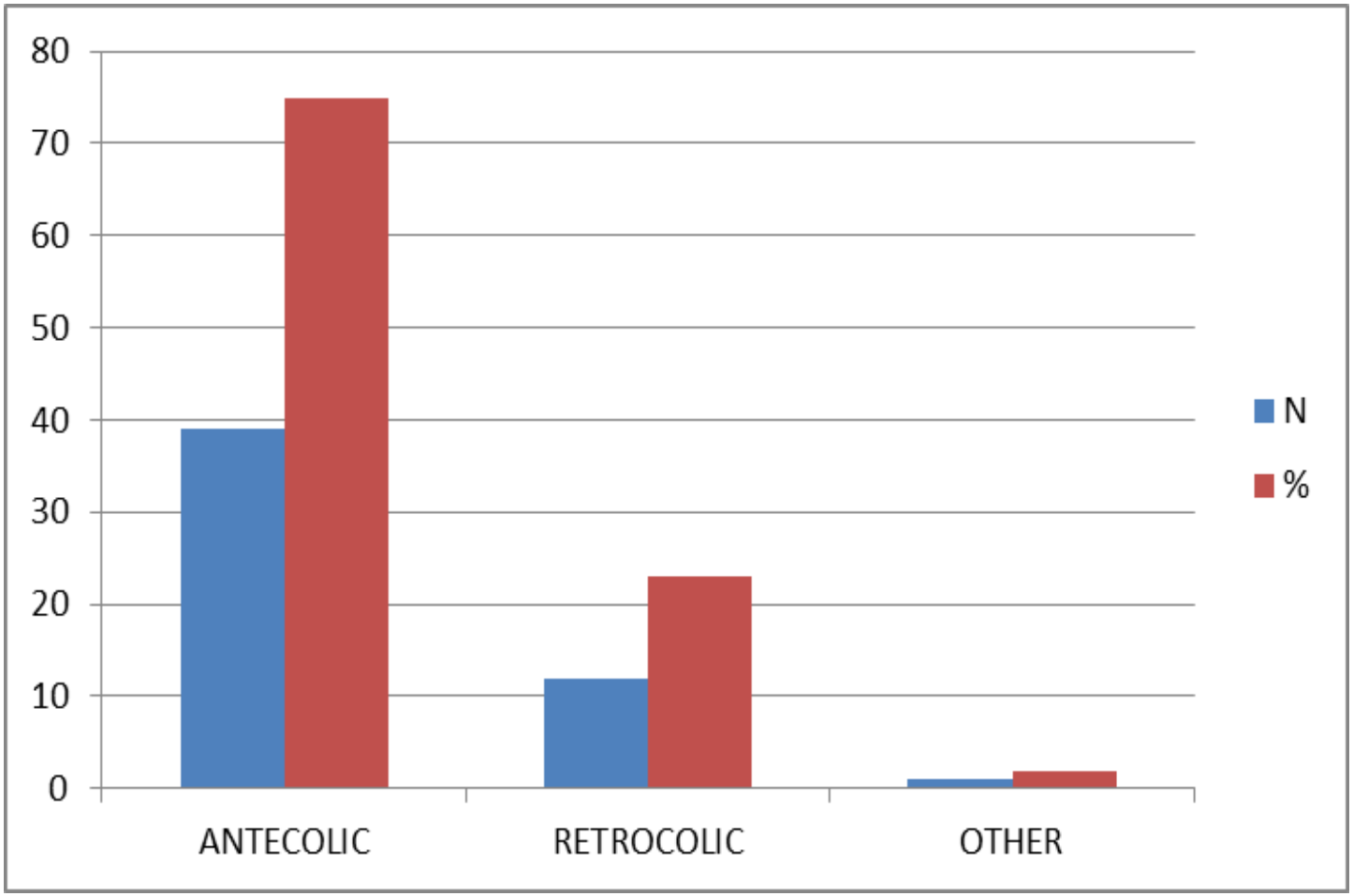
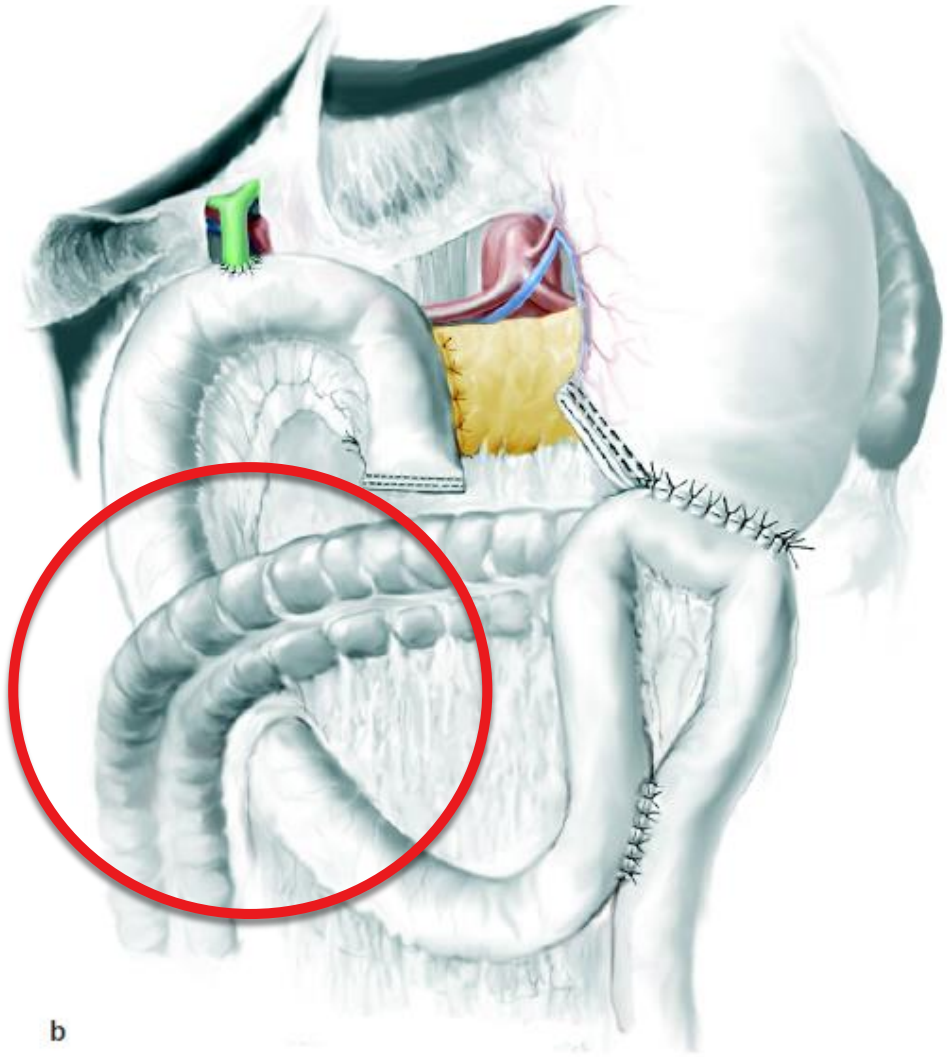


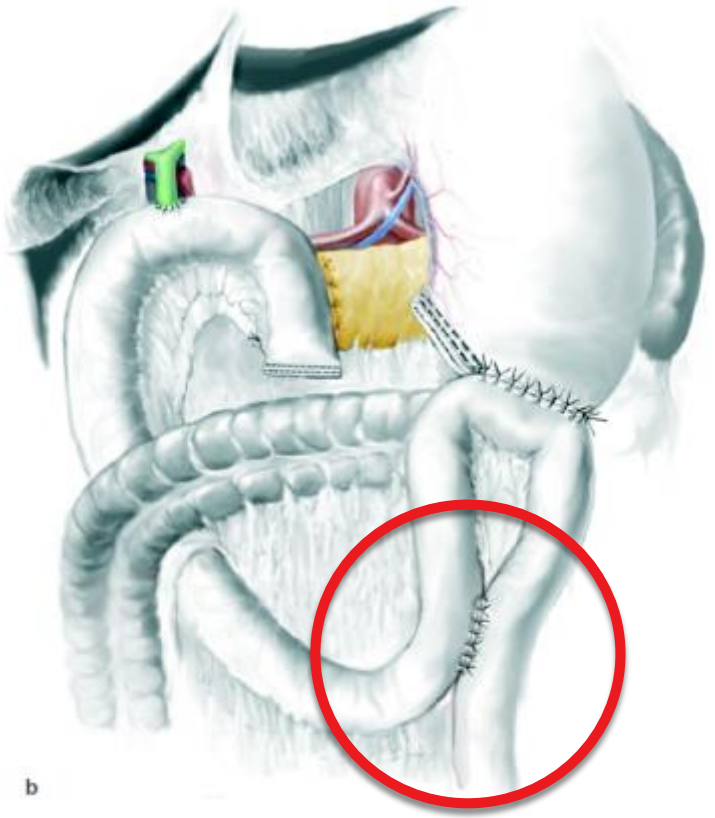
FIGURE 8 – Route of gastric reconstruction (%)

Torres et al. Arq Bras Cir Dig 2017; In press.



ANTECOLIC ROUTE

BRAUN ENTEROENTEROSTOMY



- ❑ YES 11.5%
- ❑ NO BRAUN 88.5%

Torres et al. Arq Bras Cir Dig 2017; In press.

ABDOMINAL DRAINAGE

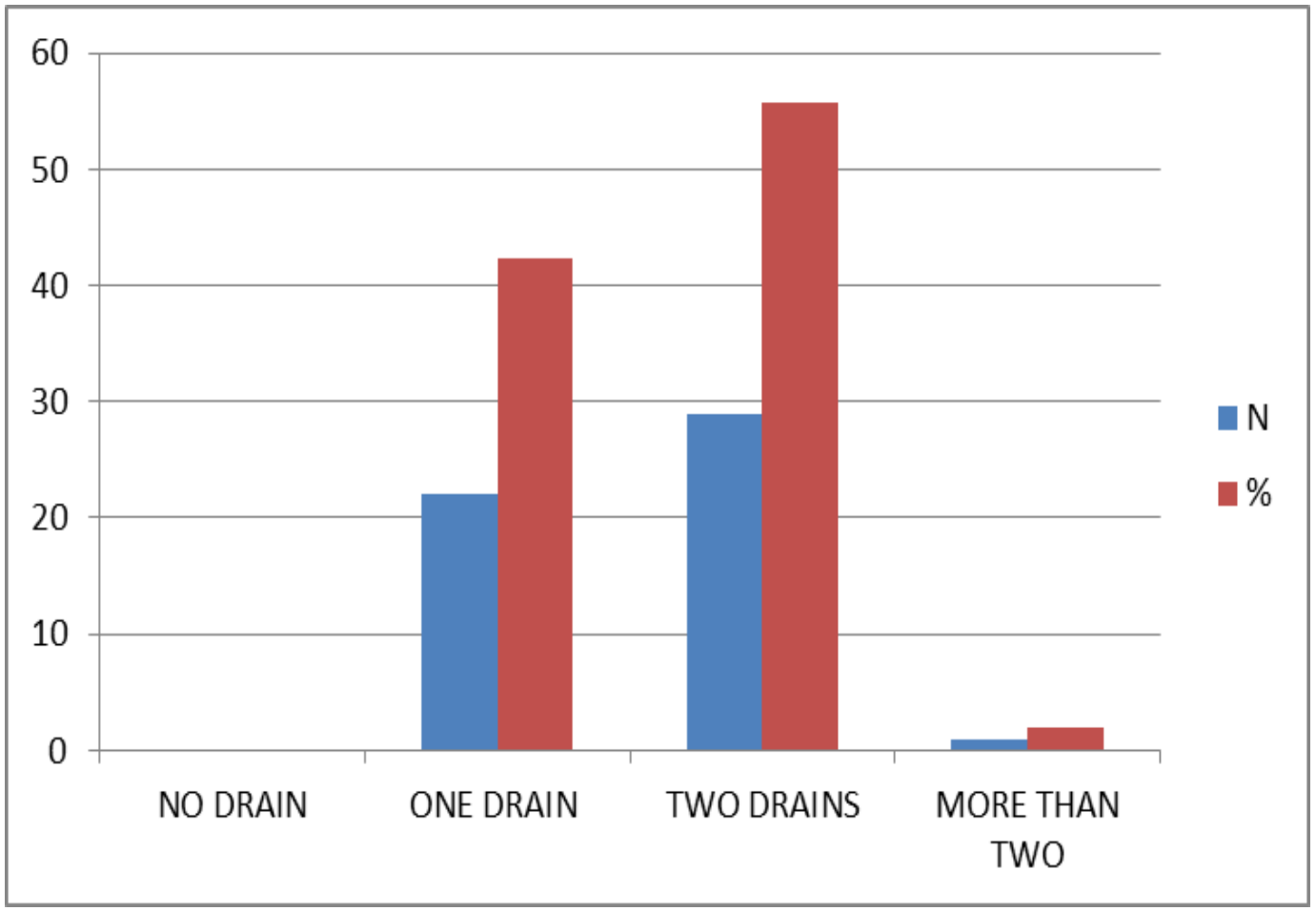


FIGURE 9 – Prophylactic abdominal drainage (%)

Torres et al. Arq Bras Cir Dig 2017; In press.

EARLY FEEDING

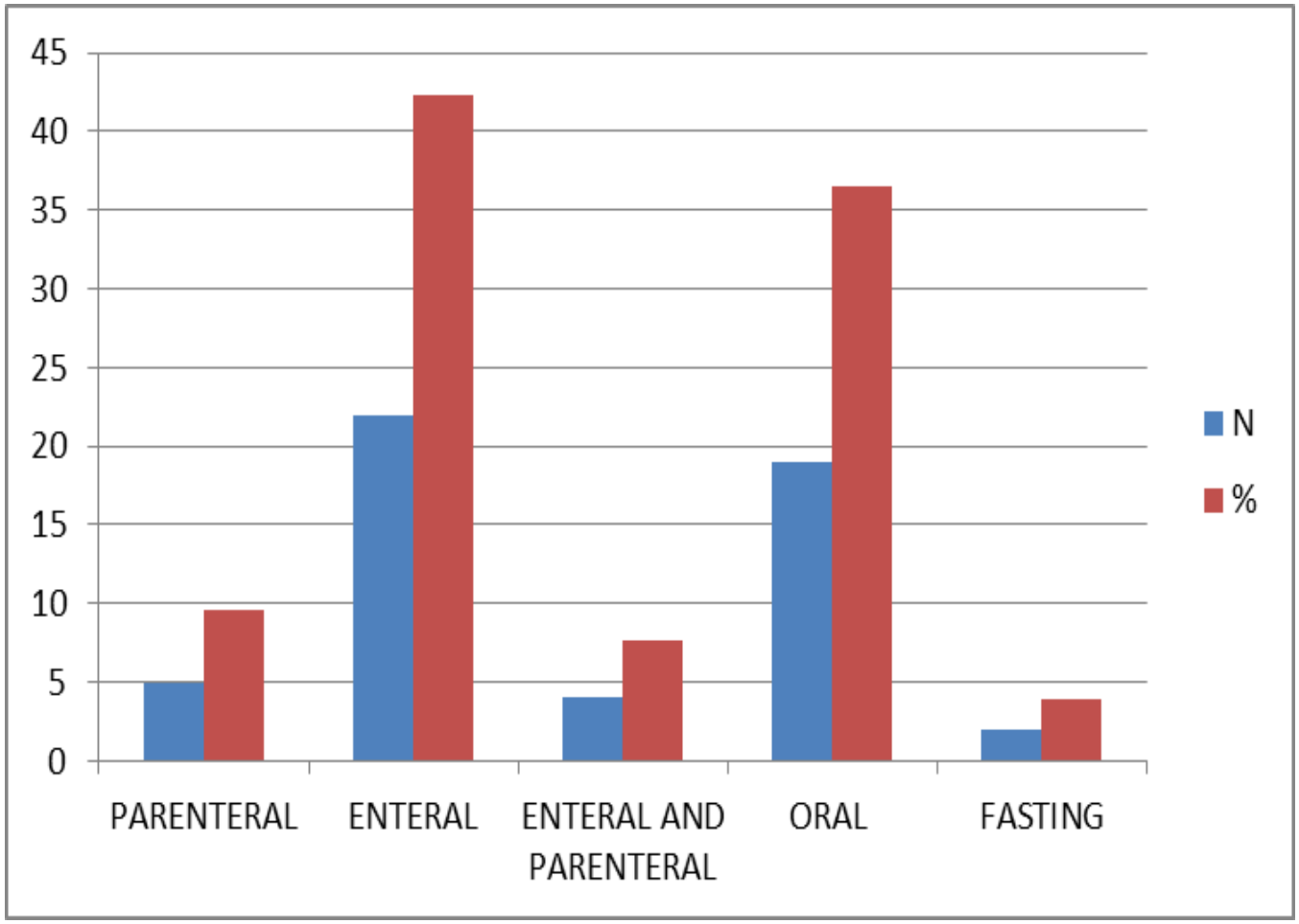
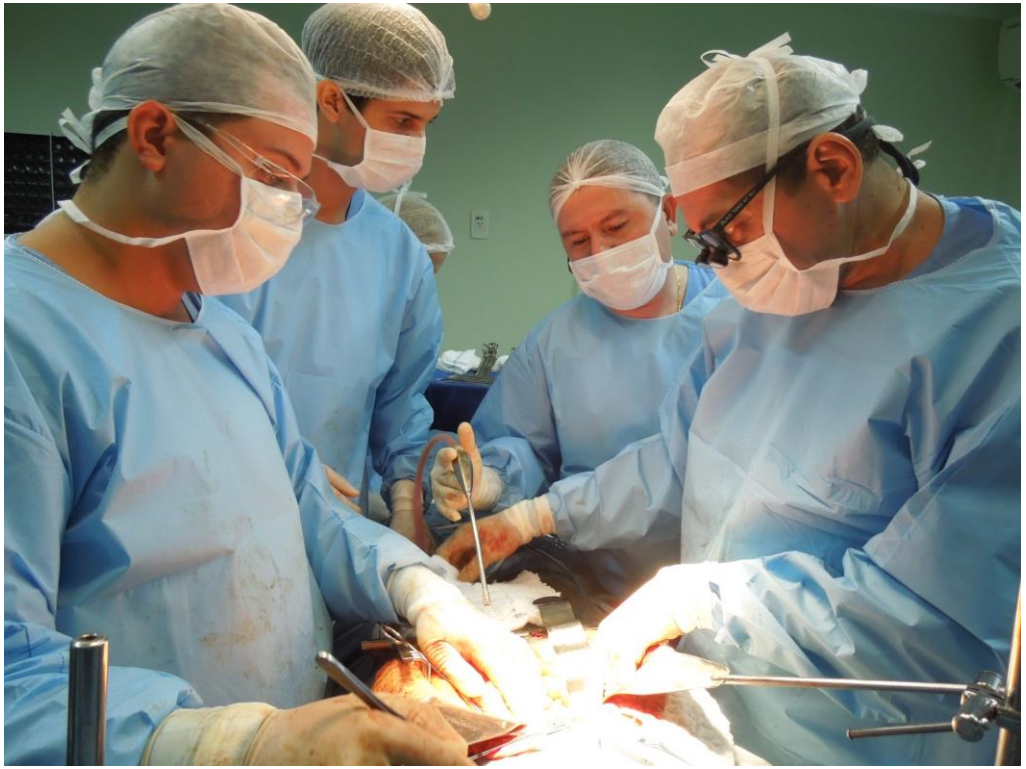
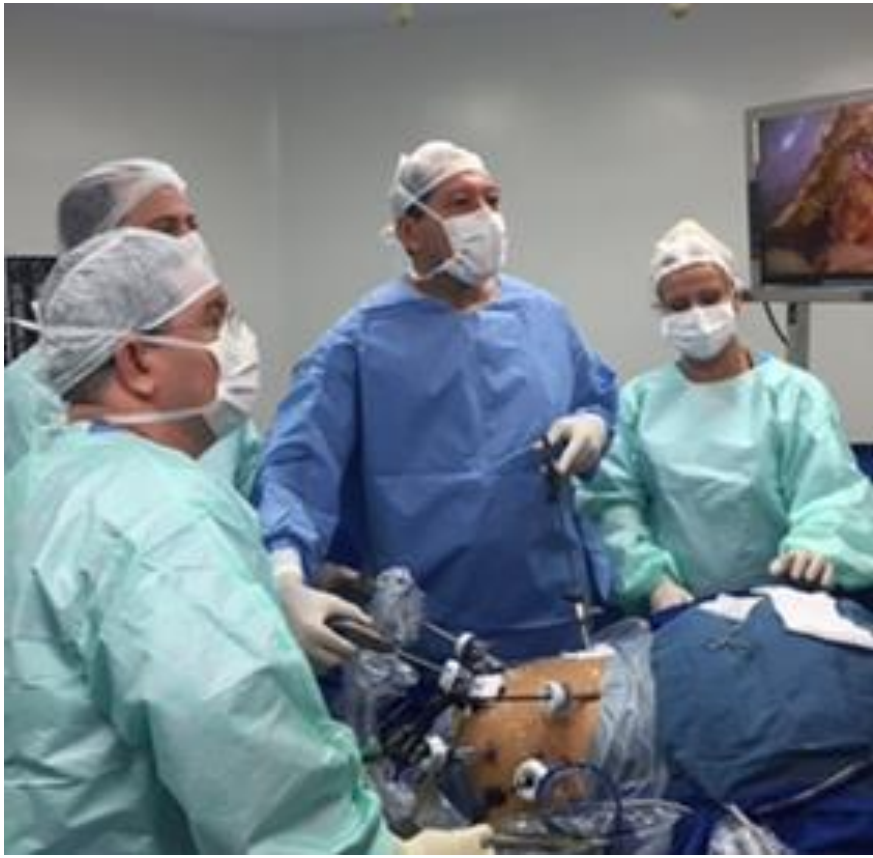


FIGURE 10 – Early feeding (%)

Torres et al. Arq Bras Cir Dig 2017; In press.



CONVENCIONAL



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VIII CONGRESSO BRASILEIRO DE CIRURGIA DO FÍGADO, PÂNCREAS E VIAS BILIARES

CB-IHPBA 2017

SAVE THE DATE

7 a 9 de setembro de 2017

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